MIDWEST MARKETING ISSUE
Pages 9-16

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Regulations, Cost of Research, Topics at Western Conference

PORTLAND, ORE.—Basic agricultural research is always under the shadow of a possible minimum $200,000 research expense that does not exist for industrial chemical research.

This was emphasized by R. D. Northcroft, Tacoma, Wash., Pennsalt Chemicals Corp., as one of the featured talks of the fifth annual Northwest Agricultural Chemicals Industry conference held here recently.

"This $200,000 research expense minimum gives a disadvantage to basic agricultural chemical research profit compared to that for industrial chemical research," Mr. Northcroft emphasized in his talk to entomologists and spray specialists representing private industry, Federal and state experiment stations of seven western states and British Columbia.

"The handicap may amount to 5, 10 or even 20% depending on the research expense of industrial research program competing for the investment dollar. Indeed, the handicap may be much greater if industrial screening methods are less expensive than agricultural chemical methods."

One of the features of the day-long annual Western Cooperative Spray Project conference held in conjunction with the agricultural chemicals industry meeting was a complete discussion on problems of pesticide registration by Dr. Ralph W. Fogleman, Palo Alto, Cal., manager of the Western division for Hazleton Laboratories.

Dr. Fogleman examined the background of the nation's food and drug laws and described the usual procedures taken to establish tolerances of pesticides, while pointing out areas where real problems lie.

"Many people of many backgrounds and scientific training are represented in the final results of any petition requesting a tolerance, and each individual datum is important to the total

(Continued on page 20)

Industry Speakers Describe Control At "Pest-O-Rama"

MONTGOMERY, ALA.—Crop, livestock, and household pests face a dark future in Alabama, with residents of the state alert to the importance of fighting insects, plant diseases, rodents, weeds, and nematodes. And they are also aware of the latest materials, methods, and equipment for pest control.

This strong interest in pest control stems from a big educational presentation — "Pest-O-Rama"—held in Montgomery, Jan. 20 and 21. Advertised as the first of its kind in the country, the free, two-day educational program was attended by more than 10,000 from at least 57 of the state's 67 counties.

Present were farmers, agricultural leaders, businessmen, 4-H and FFA members, nurserymen, garden club members, housewives, and city dwellers. People with specific pest problems came looking for answers and

(Continued on page 17)

Trade Protests Cause Delay of Rail Rate Raise

Convincing Testimony by Industry Spokesmen Has Effect on Rail Carriers

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON — A postponement of the proposed increase in freight rates which would include fertilizer shipments has been made by the Interstate Commerce Commission. Reacting under pressure from the fertilizer industry, the ICC set the new date for possible effectiveness of new rates to Feb. 15 instead of Feb. 1 as originally scheduled.

Paul T. Truitt, executive vice president of the National Plant Food Institute, Washington, appeared before the ICC recently to present the case for the fertilizer industry. In addition, protests were filed by other members of the trade indicating that the small margin of profit now existing in the industry cannot tolerate further costs in freight. Since shipping costs already constitute a considerable portion of the basic price of plant food, adding to this would create a situation wherein profit

(Continued on page 5)

College-Trade Cooperation Urged at Pesticide School

RALEIGH, N.C.—A desire to learn the latest research information and recommendations brought approximately 200 dealers, formulators, and manufacturers from 15 states to the tenth annual Pesticide School at North Carolina State College.

The two-day program was held Jan. 21-22 at the College Union Building under the direction of the college's school of agriculture and extension division.

Following registration, Dr. D. W. Colvard, dean of the school of agriculture, welcomed the group on behalf of the college.

J. Myron Maxwell of Cary, owner of Maxwell Insecticide Company and an ex-officio member of the board of directors for the Carolinas-Virginia Pesticide Formulators Assn., spoke on behalf of the pesticide industry.

He discussed how research and extension can best serve the pesticide industry, urging continued cooperation between college personnel and the industry.

"One of the best examples of this type of cooperation," he continued, "was the development of the nematode program which has meant more dollar-wise to the state's farmers than any other single cooperative effort."

He stressed the importance of informational programs such as the pesticide school.

"In these," he added, "the college personnel give their findings to the formulators. The formulators, in turn, carry the data to the dealers, and the dealers pass it along to the farmers."

He suggested that researchers and trade organizations must have a better understanding of each other's work to tackle mutual problems. A need for increased speed in passing along research findings was also singled out.

Finally, Mr. Maxwell pointed to the need for expanded nematology laboratories in the state for soil analysis and more insect and disease surveys with quick reports on findings to the industry.

Following the general remarks, the program was divided into three principal areas—plant pathology, weed control, and entomology.

Prof. H. R. Garriss, plant pathology

(Continued on page 8)

New Fertilizer Firm Started in Houston

HOUSTON—Basic G Industries, Inc., a fertilizer manufacturing firm with plant capacity of 60,000 tons a year, started operations here recently. Ed Harding, who heads up the company, said it would market its products, under the name of Basic G Fertilizer, through 150 dealers throughout Texas.

The firm, capitalized at $100,000, is owned by 18 Houston businessmen. B. L. Henderson, Sr., formerly president of Campbell Fertilizer Co., Houston, is general manager in charge of sales and production.

Diamond to Terminate Chlorine Plant Lease

CLEVELAND—Diamond Alkali Co., Cleveland, has notified the U.S. government that the company will terminate April 27, 1958, its lease for the operation of the chlorine-caustic soda plant at the Pine Bluff Arsenal, Pine Bluff, Ark., in accordance with the terms of the lease.

In making the announcement at the company's national headquarters, Frank Chrencik, general manager of Diamond's Electro Chemicals Division, which operates the leased facility, said that "the company is reluctantly forced to terminate chlorine-caustic soda operations at Pine Bluff. This is due largely to other production facilities at Muscle Shoals, Ala. and at Deer Park, Texas."

Chemical Production Data Given for 2-Month Period

WASHINGTON—The U.S. Tariff Commission has issued a preliminary report on production of certain synthetic organic chemicals for October and November, 1957.

According to the report, DDT production in October was 8,931,661 lb., and in November, 9,017,326 lb.

Production of 2,4-D acid for October was 3,172,182 lb., and for November, 2,531,778 lb.

Esters and salts of 2,4-D were produced in the amount of 2,364,741 lb. in October, and 2,126,606 lb. in November. Production of acid equivalent of 2,4-D acid esters and salts were 1,786,125 lb. for October and 1,729,104 lb. for the following month.

Production of BHC for October was listed by the Commission as 820,157 lb. for October, but no figures for November were given. Production of gamma isomer BHC was 228,892 lb. for October.

The output of 2,4,5-T was 308,405 lb. for October and 414,595 lb. for November.

New Potash Mine Sunk in Record Time

CARLSBAD, N.M. — Farm Chemical Resources Development Corp.'s new potash mine here was sunk in the record time of nine months, according to an announcement of the New Mexico Mining Assn.

Commendation went to the contract boring firm of McKenzie and Whittle which collared the hole 15 feet wide March 13, 1957, and had it completed to a maximum depth of 1,697 feet and concreted bottom and sides by Dec. 7, 1957. A bed of salt was laid in the bottom of the deep shaft to bring it back to the working level at about 1,628 feet—site of the ore vein. This was the third medium-depth shaft sunk by the contractors in this area.

Farm Chemical Resources Development Corp. is the seventh potash firm in southeastern New Mexico.

Inside You'll Find

Insect Notes 4
Over the Counter 9
What's New 10
Farm Service Data 12
Oscar and Pat 14
Weed of the Week 16
Industry Patents & Trademarks .. 18
Editorials 22
Meeting Memos 23
Advertisers' Index 23

Minnesota Nitrogen Conference Program Details Completed

ST. PAUL, MINN.—A nitrogen conference expected to attract some 1,000 fertilizer industry representatives, college and USDA personnel, as well as farmers from the Upper Midwest, will be held in the Lowry Hotel, St. Paul, on Feb. 20-22. The three-day conference will highlight the importance of nitrogen fertilizer in midwestern agriculture. Co-chairmen of the conference are Dr. William P. Martin, head of the soils department, University of Minnesota, and J. W. Hicks, International Minerals & Chemical Corp. The conference is sponsored jointly by the University of Minnesota and the Midwest regional office of the National Plant Food Institute.

Dr. Malcolm H. McVickar, California Spray-Chemical Corp., Richmond, Cal., will be the keynote speaker at the opening session on Feb. 20. His topic will be "How Can We Work as a Team to Put Soil Fertility Facts to Work on the Farm?"

A six-man panel will discuss "Our Part in Getting the Job Done," to conclude the opening day session. Panel members include Dr. Martin; Roland Abraham, Minnesota agricultural extension service; Proctor Gull, Spencer Chemical Co.; A. C. Hartzler, Kansas State College; Leslie Boler, Winnebago, Minn., farmer; and Richard Bird, Goodhue County, Minn., banker.

Another panel will discuss "The Role of Nitrogen in Production Potentials" at the afternoon session on Feb. 21. Panel speakers include: Dr. J. M. MacGregor and Paul M. Burson, Minnesota soil scientists; Dr. R. A. Young, North Dakota Agricultural College; and Dr. M. R. Teel, Purdue University.

Other speakers and their topics for the meeting include: Dr. George D. Scarseth, American Farm Research Association, "Nitrogen—Our Big Need;" Dr. George Blake, University of Minnesota, "Nitrogen, Soil Organic Matter and Soil Structure;" Dr. E. L. Schmidt, University of Minnesota, "Nitrogen and the Life of the Soil;" and Dr. A. C. Caldwell, University of Minnesota, "Don't Forget Phosphorus, Potash and Lime."

Two reports, one on "Nitrogen Availability Measurements in Soils" and "Industry's Program for Getting the Job Done" will be given by Dr. John Grava, University of Minnesota, and Laurie Peterson, Midland Cooperatives, Inc., respectively.

Zenas H. Beers, NPFI Midwest regional director, will represent the Institute at the conference and will serve as chairman at the afternoon session on Feb. 21.

R. M. Jones

Nitrogen Division Names Technical Service Director

NEW YORK—Nitrogen Division of Allied Chemical & Dye Corp. has appointed R. M. Jones as director of technical service to succeed E. W. Harvey who retired Jan. 1. (Croplife, Jan. 27.)

In addition to his new duties, Mr. Jones will continue as Nitrogen Division's manager of product development. He is located at the division's main office in New York.

The new director joined Allied in 1927 after spending seven years as a chemist with the USDA experiment station in Washington, D.C. He was first employed by Allied in the research department. During the early thirties he worked on the technical and marketing aspects of nitrogen solutions.

From 1940 to 1946 he was assistant sales manager for industrial chemicals. He has been manager of product development since 1946.

Mr. Jones is a native of Taylor, Pa., and holds a B.S. degree in chemistry from Pennsylvania State College and an M.S. degree in chemistry from George Washington University.

Escambia Names New Director of Research

NEW YORK—Dr. W. Mayo Smith has been appointed director of research for the Escambia Chemical Corp., Robert U. Haslanger, president, has announced.

Dr. Smith has served as assistant director of research in charge of polymerization and plastics research and development since April, 1956.

Escambia's research and development activities are now conducted at Cambridge and Newton, Mass., but will be moved late this spring to the new Escambia research center in Wilton, Conn., where Dr. Smith will be in charge.

At its Pensacola, Fla., plant Escambia produces ammonia, ammonium nitrate, and ammonium nitrate solutions for the fertilizer industry. In other fields, Escambia manufactures polyvinyl chloride resins.

Wyandotte Pyrazine Unit Goes on Stream

WYANDOTTE, MICH.—Wyandotte Chemicals Corp. has placed on stream the first unit for the production of methylpyrazine and 2,5-dimethylpyrazine. These new facilities complement Wyandotte's existing plant for the production of 2-methylpiperazine and 1,4-bis-(2-hydroxypropyl)-2-methylpiperazine (DHPMP) at Wyandotte, Mich.

Wyandotte has published a new booklet on the reactions and applications of the pyrazines, covering data on the preparation of pharmaceutical products, high polymers, insecticides and dyes.

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Pennsylvania Conference Hears Survey Results, Receives Pep Talk on Forest Fertilization

— Photo on Page 6 —

UNIVERSITY PARK, PA.—In discussing fertilizer needs, most Northeast farmers talk with their local fertilizer dealer, county agent, family members, and neighbors and friends—in this order, according to a national survey reported Jan. 23 at the annual lime and fertilizer salesmen's conference at Pennsylvania State University.

Making the report was W. H. Garman, chief agronomist, National Plant Food Institute, Washington, D.C. Dr. Garman said the survey was made for the Institute by a national analysis group and will be released this spring with exact figures.

"A high percentage of farmers getting soil tests in 1956 used fairly high levels of fertilizer on their major crops," Dr. Garman said.

Northeast farmers listed soil tests and their own knowledge as major factors in determining the needs of their soil for growing crops, it was noted. A large percentage of farmers using medium and low levels of fertilizer applied from 151 to 350 lb. per acre.

The study indicates that a high proportion of Northeast farmers do not know of demonstration plots near them and have never visited them. They have read about demonstrations mostly in farm magazines and government or college publications. Very few farmers have put out fertilizer plots or trials, the survey indicates.

Farmers rated county agents, college publications, and local fertilizer dealers in this order for sources of practical information regarding fertilizer.

In planning major changes, most farmers listed need for "more fertilizer" and "different elements." Their reasons for planning different fertilization stressed a desire for increased yield and showed farmers believed changes had occurred in their soil.

Among farmers with plans for increasing income, a change in livestock was cited most frequently in the survey.

When asked what makes a "really good farmer," most farmers replied from a list of items in this order: More fertilizer per acre, more machinery, works harder, and more fertile land.

Farmers in the survey were divided into the rate of fertilizer used on major crops—high, medium, low and none.

The proportion of farmers in the survey having a gross income in excess of $10,000 in 1956 was twice as great among high users of fertilizer as among low users.

The average gross income per acre of crops and pasture in 1956 for high users of fertilizer was almost double the income of low users.

The proportion of farmers having operations in excess of $25,000 was nearly twice as great among high users of fertilizer as among low users.

Farmers having livestock and poultry valued in excess of $10,000 and using high levels of fertilizer more than doubled percentage of farmers with low fertilizer levels.

The percentage of farmers with high use of fertilizer and having machinery and equipment valued in excess of $10,000 was nearly triple the percentage of farmers with low fertilizer levels.

The lime and fertilizer industry should encourage and promote research in forestry fertilization, declared E. T. York, Jr. of the American Potash Institute, speaking at the conference. Mr. York described his travels in Europe to observe uses of fertilizer for greater forest production.

"Europe has done more work on the use of fertilizer for forest growth than has the U.S.," Mr. York stated. "By 1975 the U.S. will need twice as much wood and wood products as used now."

In addition to forestry, he described the need for greater use of fertilizer with farm crops and home and urban areas. He said that more than 50% of Pennsylvania farmland gets no fertilizer each year. In the Mid Atlantic states, Mr. York reported, only 9% of the hayland and 7% of pastureland receive fertilizer.

"One million acres of land are converted each year to non-farm use," Mr. York noted. "These new urban developments offer excellent opportunities for off-the-farm uses of fertilizer. We need educational efforts centered at more efficient fertilizer use by home owners."

One phase of the lime and fertilizer salesmen's conference was a meeting of the Pennsylvania Plant Food Educational Society, Inc. The society was organized July 11, 1957, to serve the interests of the fertilizer and lime industries in the state.

Elected to the board of directors for two-year terms were Murry C. McJunkin, U.S. Steel Corp.; Delmer K. Myers, Pennsylvania Department of Agriculture; F. Edward George, Thomasville Stone and Lime Co.; Dale Friday, Nitrogen Division of Allied Chemical and Dye Corp., and Kendall S. Tomlinson of the Lebanon Chemical Corp.

Elected president of the society by the new board of directors was Howard B. Sprague, head of the Department of Agronomy at Penn State. Mr. McJunkin was elected vice president. Reelected secretary-treasurer was Rodger C. Smith of Eastern States Farmers' Exchange. The retiring president is Arthur A. Schultz of Reading Bone Fertilizer Co.

Serving a second year on the board of directors are Herbert R. Albrecht, Penn State; Perry Onstot, Davison Chemical Co.; Mr. Schultz; George Serviss, G.L.F., and Dr. Sprague, Penn State.

Retiring from the board of directors are Lee Bull, Pennsylvania Department of Agriculture; Clarence Reichard, Robert A. Reichard, Inc.; David Schroyer, Millard Lime Co.; Mr. Smith; S. F. Thornton, F. S. Royster Guano Co., and Mr. York.

KENTUCKY GRANT

LOUISVILLE—International Minerals & Chemical Corp., Skokie, Ill., has granted the University of Kentucky $5,000 for research on pasture fertilization.

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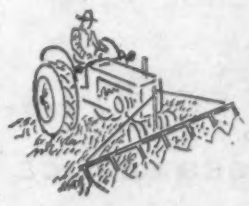

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INSECT AND PLANT DISEASE NOTES

Live Boll Weevil Numbers Show Increase In Most Areas of Southern Cotton Belt

WASHINGTON — More live boll weevils entered hibernation last fall than the year before in Tennessee, Mississippi, Louisiana and South Carolina, the U.S. Department of Agriculture says. But weevil counts were down in most North Carolina counties and in Virginia.

In Tennessee, boll-weevil numbers topped those of the six preceding years, and in Madison Parish, La., they were at the second highest level of the past 22 years.

More than three times as many weevils were found in Mississippi and Louisiana as in the fall of 1956, and about 2½ times as many in Tennessee. Smaller increases were found in South Carolina and parts of North Carolina.

This sample count was the first half of a winter hibernation survival survey that cooperating entomologists of state agricultural experiment stations and USDA Agricultural Research Service make each year to get an idea of the boll-weevil threat to the next cotton crop.

In Tennessee's McNairy County, which has the heaviest boll-weevil infestation in that state, more live weevils—2,365 per acre—were found in hibernation in 1957 than since the fall of 1952. Only 933 were found per acre in 1956. Other southern Tennessee counties were expected to run only slightly lower than McNairy in their 1957 averages.

In Mississippi, 6,716 weevils were found per acre last fall, compared with 2,091 in 1956.

In northeastern Louisiana, the average count for East Carroll, Madison and Tensas parishes was 8,043 in 1957 and 2,595 in 1956. Records have been taken in Madison Parish for 22 years, and in only one year—1955 with a count of 13,443—have more weevils been found there than the 6,860 counted last fall.

In the area comprising Florence, Darlington and Marlboro Counties, S.C., and Scotland County, N.C., 11,374 live weevils per acre of woods trash were found, 2,639 more than in the fall of 1956. The 3,978 weevils per acre turned up in Orangeburg, Bamberg, and Dorchester counties, S.C., were 266 more than in 1956. In the Piedmont area of Anderson, Greenville and Spartanburg Counties, S.C., and Mecklenburg, Cleveland and Union Counties, N.C., counts were up slightly—6,752 live boll weevils per acre in 1957, from 6,268 in 1956.

Greatest drop was in the North Carolina area of Edgecombe, Franklin, Nash and Wilson Counties, where 1957 counts of 2,205 weevils were less than half the 1956 counts (4,815).

In Brunswick, Mecklenburg, Nansemond and Southampton Counties, Va., counts averaged 3,335, or 834 less weevils per acre than in the previous year.

Grasshopper Control Saves Nebraska Farmers Millions

LINCOLN, NEB.—Nebraska farmers saved an estimated $21 million last year by controlling grasshoppers on range and cropland, according to University of Nebraska entomologists. Farmers sprayed an estimated 178,800 acres of range and pasture land and 1,740,690 acres of cropland. Some 136,563 acres of corn were treated for control of corn borers.

More than two million pounds of insecticides were used by Nebraska farmers on their crops last year at a cost of about $4 million. Another million was spent in the state for control of insects in homes and gardens.

Despite control efforts, however, grasshoppers still caused damage amounting to $7 million on a variety of crops, and the corn borer is charged with a loss of $20 million in Nebraska.

Maryland Insect Summary Shows Less Borer Damage

COLLEGE PARK, MD.—Even though the European corn borer did less damage to the 1957 Maryland corn crop than in the two previous years, corn growers still had their insect problems with corn earworms, armyworms, flea beetles and fall armyworms.

The corn earworm did heavy damage in the late corn crop, according to the annual year-end summary of insect conditions in Maryland, prepared by University of Maryland extension entomologists. The annual summary is based on reports from county agents, farmers and homemakers, and on insect surveys.

In the alfalfa crop, the alfalfa weevil started earlier than usual and did heavy damage to unsprayed first growth alfalfa. It is estimated this pest destroyed over $500,000 worth of alfalfa. Entomologists report that farmers who sprayed got good results. Pea aphid and meadow spittlebug infestations on alfalfa were lighter than in 1956, except in the western counties.

On bean crops the potato leafhopper, Mexican bean beetle and corn earworm were serious. Codling moths did more damage to the apple crop than in 1956. Spider mites were more destructive than normal on beans, tomatoes and cucurbits due to the dry weather. Aphids were also more numerous than usual on tomatoes, spinach and broccoli. Pea aphids, however, were below normal.

Record Borer Population Counted in Missouri

COLUMBIA, MO.—Record numbers of corn borer larvae are present in Missouri, according to results of a recent survey made in the state. Stirling Kyd and George W. Thomas, University of Missouri extension entomologists, conducted the survey and report that the count is highest in years. Should weather conditions be favorable, corn borer damage to the Missouri crop could exceed that of 1957 which was greater than that for many years, they say.

The jump in borer population between 1956 and 1957 was great, the entomologists said. In 1956, the state count disclosed the presence

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of 90 borers for every 100 cornstalks. Last year, however, the average was 346 borers per 100 stalks.

Prospects for heavy borer infestations are greater in the state's northwest corn-growing counties, although trouble could develop in many other places in the state.

Pesticides Bring Profit to Illinois Agriculture

URBANA, ILL.—Illinois farmers made an estimated profit of almost $2.7 million by treating their crops with insecticides during 1957, according to H. B. Petty, entomologist with the University of Illinois. He bases this estimate on acres treated for major insects and yield increases obtained. County farm advisers helped to gather this information.

Altogether 934,224 acres were treated, he said. Farmers applied the treatments on about half of the acreage, and commercial operators did the rest. Soil insects received the most attention during 1957, with more than 657,000 acres treated for these pests. Control measures for corn borers were applied on 165,000 acres. Other important insects for which treatments were applied were fall armyworms, potato leafhoppers and grasshoppers.

Virus Disease Hits Kansas Barley Crop

MANHATTAN, KANSAS—One reason for reduced barley yields in Kansas may be due to a seed borne virus disease considered relatively unimportant earlier. The virus is barley stripe mosaic, according to Webster H. Sill of the department of botany and plant pathology at Kansas State College, Manhattan. In a recent check of 116 farmer seed samples, 25 were found infected by the virus. The samples came from 18 widespread counties.

Mr. Sill said losses from the disease are 50% in some cases, but usually have been less. Since the disease is seed borne, it can be expected to show up anywhere infected seed is planted.

AMA Proposes New Law for Dangerous Chemical Products

NEW YORK—An American Medical Assn. committee reported Jan. 29 that regulations for labeling dangerous chemicals in everyday use are a "hodge-podge," and proposed a draft of a model law to deal with the problem. The word "poison" was ruled out as a universal label.

The model law was described by Dr. Bernard E. Conley, Chicago, before the section on Food, Drug and Cosmetic Law of the New York Bar Assn. Dr. Conley is secretary of the AMA's committee on toxicology, which made the report after 15 months of work.

He said the proposed model would be designed to bring about uniform laws. These would require that hazardous ingredients be declared and that warning statements should be on the labels and in the accompanying reading matter about chemical products used at home, in commerce and industry.

Dr. Conley said the word "poison" was deleted from proposed provisos because surveys showed widely different legal limits for poison and a lack of agreement among scientists on what constitutes poison.

RAIL RATES

(Continued from page 1)

would disappear completely in some cases.

Industry spokesmen also indicated that advances in rail rates would force many companies to use trucks for much of the hauling now done by train, and others indicated that waterways might be used more extensively where possible.

In backing down on the deadline, the carriers agreed that the ICC would need more time to study the trade protests against the rate increase.

However, this commutation of sentence does not necessarily mean any substantial victory. On the contrary, it still appears that the cards are stacked against the shippers with some small exceptions which ICC may grant in individual instances.

For weeks ahead of the Jan. 29 oral hearing, presidents of leading eastern carriers have appeared before congressional committees to blazon across the press of the nation that the railroads were on the verge of bankruptcy. They want not only better rates under present ICC control, but they are basically asking repeal of the ICC act and an opportunity to go into the open market to bid for freight against the truck and water-borne freight operators.

Here is a major issue. The ICC Act was designed to halt preferential rates by carriers to attract freight and to abet monopolistic combinations within industry. The issue may well be that in the new era with trucker competition, and better managed and operated water-borne transport, that the carriers do not have a case.

There are few who believe that the repeated hearings before ICC on rate increase requests provide any forum for agreement to the satisfaction of anyone, including the carriers even when they obtain requests for new tariff charges.

So as things now stand here at ICC, the decision on imposition of the requested higher freight rates which were scheduled to take effect if approved on Feb. 1 will be effective Feb. 15, 1958.

Helene A. Whelan Joins American Fluoride Corp.

NEW YORK—American Fluoride Corp. here has announced the appointment of Miss Helene A. Whelan as a special sales representative. Miss Whelan, who has had extensive experience in agricultural and industrial insecticide marketing, will specialize in her new post in sales of chemicals and related products to the pest control field.

ELECTED TO BOARD

NEW YORK—Hans Stauffer, president of Stauffer Chemical Co., New York, has been elected a board member of the National Industrial Conference Board. Mr. Stauffer is also a director of Greyhound Corp., Western Phosphates Inc., Montrose Chemical Company of California, Philadelphia Quartz Company of California, San Francisco Chemical Co., Cornwall Chemicals Ltd. and Old Hickory Chemical Co.

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Corn from an aldrin-treated row (left) grew bigger, better, and more abundant than corn from *same length of untreated row* (in basket on right).

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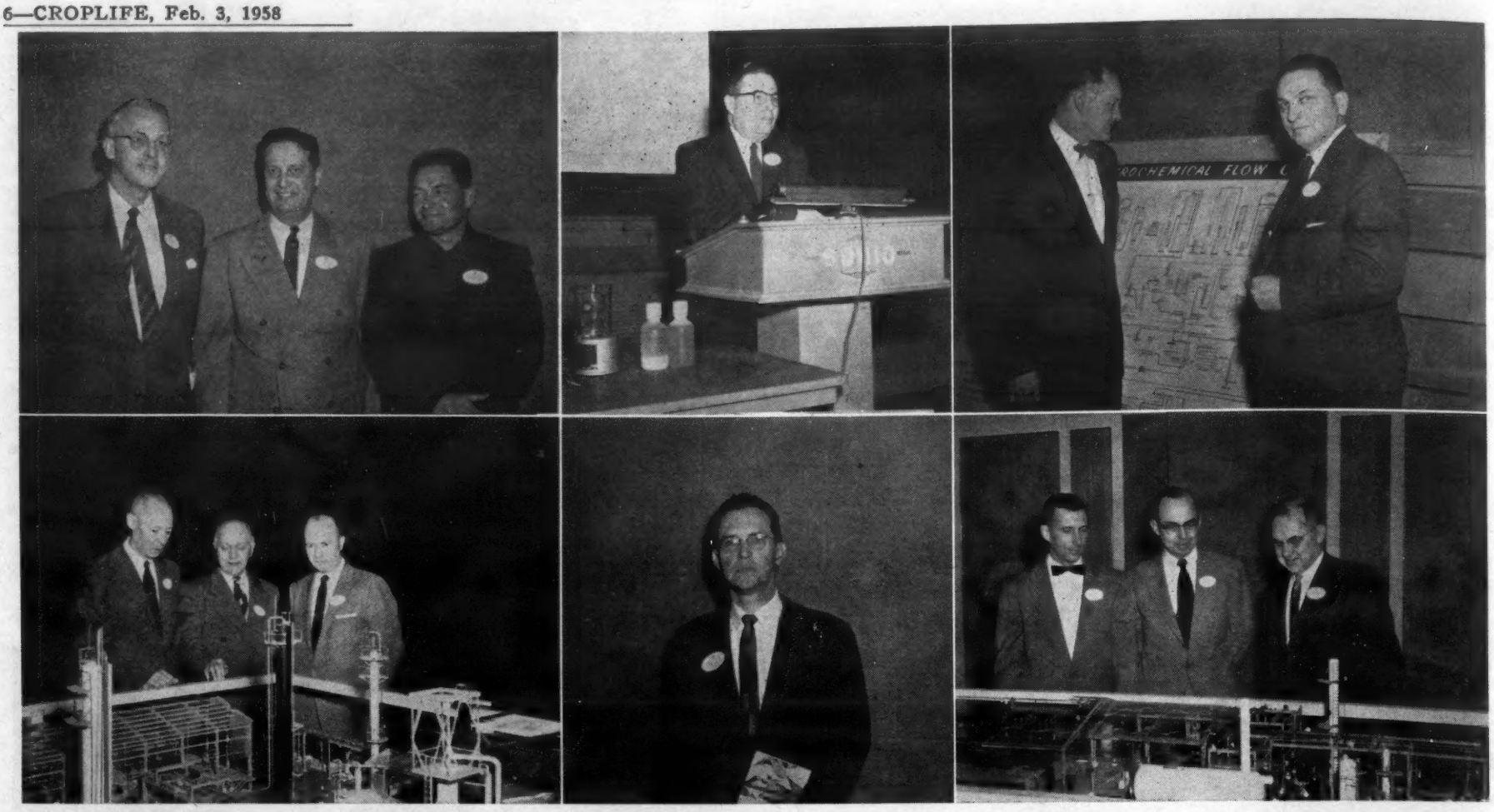

AT SOHIO SYMPOSIUM—Coincidental with its publication of two handbooks on the manufacture of both dry and liquid fertilizers. Sohio Chemical Co. held a symposium at its Lima, Ohio, plant Jan. 16, attracting some 175 manufacturers in the fertilizer industry. (Croplife, Jan. 20, page 1.) Seen in the photos above are some of the principal persons concerned with the day's activities. Top row, at left, are Kenneth A. Shantz, Canadian Industries, Ltd., Montreal; H. H. Tucker, Sohio Chemical Co., Lima; and James Merriam, Merriam Fertilizer Service, Monticello, Ill. In center photo is E. F. Morrill, president of Sohio Chemical Co.; and at right are Henry J. Coleman, Sohio, sales manager, and George W. Cosper, Sohio.

In the lower row are Dr. K. G. Clark, USDA, Beltsville, Md.; Dr. Vincent Sauchelli, National Plant Food Institute, Washington, D.C.; and Ed E. Crouse, U.S. Liquid Fertilizer Corp., Indianapolis, Ind. In the center picture is A. V. Slack, Tennessee Valley Authority, Wilson Dam, Ala.; and at the right are Fred Price, Marquiss Farm Supply, Clinton, Ill.; C. O. Perkinson, C. O. Perkinson Co., Decatur, Ill., and Frank Nielsson, International Minerals & Chemical Corp., Chicago.

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Engineer Designs New Aircraft Equipment

WOOSTER, OHIO—J. E. Henry, agricultural engineer with the Ohio Agricultural Experiment Station, has developed two attachments for spreading farm chemicals by plane.

One is a metering device in the form of rotating, fluted drum which feeds out pesticides, fertilizers or seeds. It makes it possible to apply granular fertilizer, for instance, at the rate of about 12 to 200 lb. per acre by changing the speed of the rotor. Mr. Henry says this meter, coupled with a variable speed drive and installed in a light airplane, has given "quite satisfactory performance" over the past two years.

Mr. Henry also has designed a new distributor used for applying different materials such as granular fertilizer or granular insecticides. Other station workers are using the equipment for aerial control of spittlebug in hay crops or borers in corn fields. Over 90% of the insects were killed in this manner.

Western Cotton Meeting Program to Include Talks on Pest Control

EL PASO, TEXAS—Program plans have been announced for the 1958 Cotton Production Conference scheduled to be held at the Cortez Hotel here March 4-5. Although some of the items on the program were tentative, the agenda will include talks on fertilization and irrigation; controlling cotton diseases; new developments in systemic insecticides; weed control in cotton; chemical defoliation; and discussions on various equipment for applying chemicals.

Among speakers listed on the advance program are Dr. Philip J. Leyendecker, head of the department of agricultural services at New Mexico A&M College, who will talk on seedling diseases; Harold W. Lembright, nematologist, the Dow Chemical Co., San Francisco, Cal., on nematodes; and Dr. John E. Chilton, plant pathologist, Arizona Fertilizers, Inc., Phoenix, on verticillium wilt disease.

A paper on "New Developments in Systemic Insecticides" will be presented by Dr. H. T. Reynolds, entomologist at the California Agricultural Experiment Station at Riverside.

Dr. D. E. Longenecker, agronomist at the El Paso Valley Experiment station, Ysleta, Texas, will talk on "Fertilizing-Irrigating Cotton for Greatest Profit."

Representatives of the National Cotton Council of America will discuss topics dealing with fiber quality and cotton markets, with a welcoming address by Dr. Robert H. Black, dean and director of agriculture at New Mexico A&M College.

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HEAD PENNSYLVANIA GROUP—New officers of the Pennsylvania Plant Food Educational Society discuss a problem with retiring president, Arthur A. Schultz, left, Reading Bone Fertilizer Co., during a conference at Penn State. Left to right, are Rodger C. Smith, Eastern States Farmers' Exchange, reelected secretary-treasurer; Howard B. Sprague, head of the Department of Agronomy at Penn State, president; and Murry C. McJunkin of U.S. Steel Corp., vice president. The story appears on page 3.

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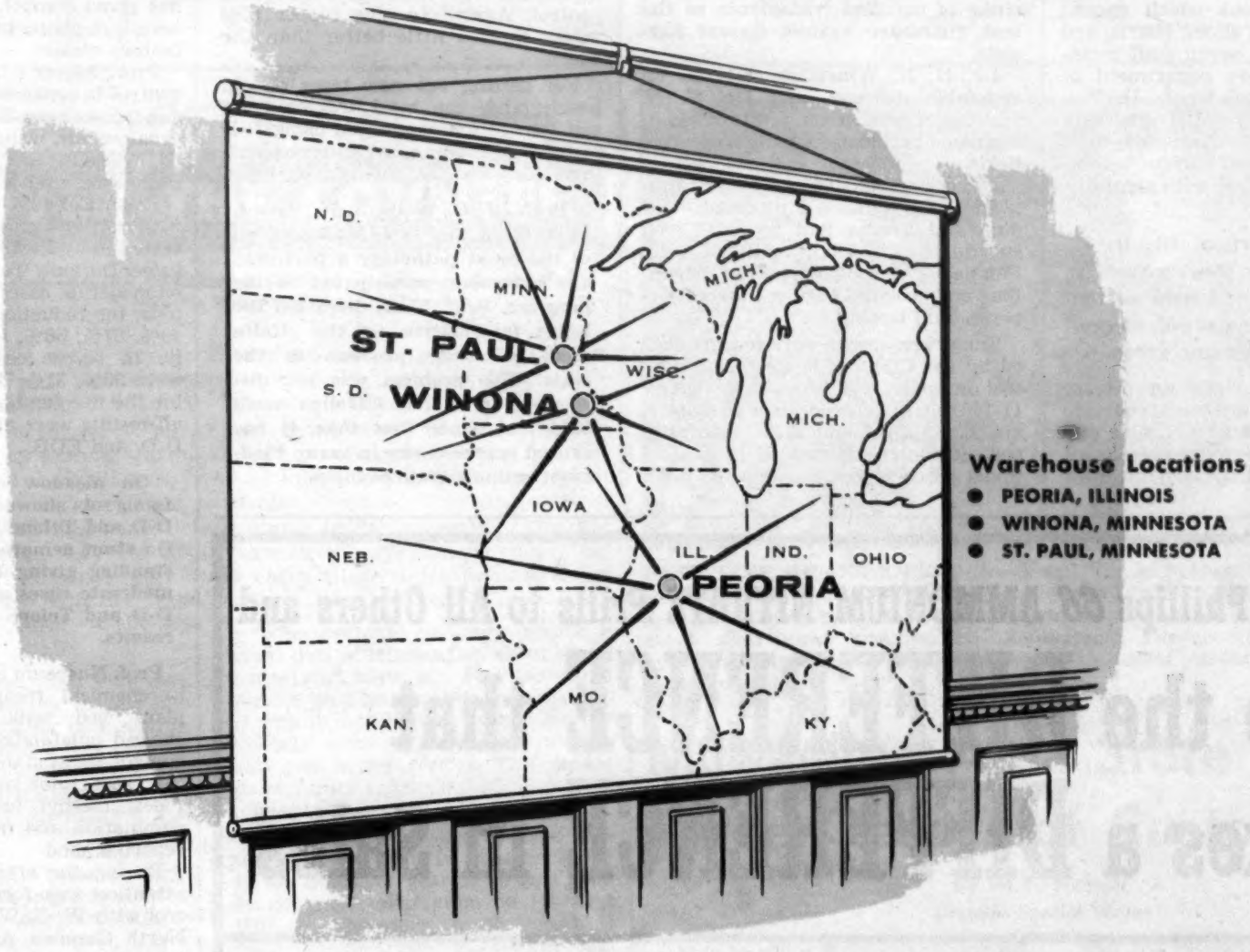

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NORTH CAROLINA SCHOOL

(Continued from page 1)

extension, presided over the plant pathology discussions which opened the program. Using slides, charts, and other illustrations, seven staff members of the college's department of plant pathology, and Dr. L. H. Person, plant disease epidemic and warning service, USDA, discussed their research projects and current recommendations for dealing with plant diseases.

During this portion, Dr. D. E. Ellis, head of the plant pathology department, reviewed some of the service features and urged suggestions from the attending group.

In Dr. Person's talk on disease problems with imported vegetable transplants, he pointed out that diseases mean not only economic losses for the current crop but also for crops for years to come. He urged the purchase of certified transplants as the best guarantee against disease hazards.

Dr. N. N. Winstead, research on vegetable diseases, and Dr. C. N. Clayton, research on fruit diseases, discussed problems in their respective fields.

Discussing tomato and pepper fungicides, Dr. Winstead reported omadine and dyrene had brought good control of early blight and high yield. For bacterial spot, copper and streptomycin brought best results in experimental testing.

Fungicidal sprays were recommended by Dr. Clayton. Perfect scab control on apples was brought by cyprex (1-100) and two experimental materials, E. F. 23441 and 23281, also gave perfect control. He added that additional work is being conducted with sulfur plus ferbam plus phygon, followed by captan.

In peach diseases, bacterial spot continues to be the most troublesome problem. Chemical sprays were used in testing but none gave adequate control. Agrimycin plus copper plus sulfur showed little better than the check.

For setting out new trees on old peach land, the solid treatment of soil fumigation was urged using D-D at 50 gal. an acre prior to tree planting.

Profs. J. C. Wells, J. N. Sasser, F. A. Todd, and C. J. Nusbaum, all of the plant pathology department and extension, participated on the program. Prof. Wells discussed the latest information on the alfalfa stem nematode problem in the state. This problem was not discovered in North Carolina until 1954, but, since that time, it has caused severe losses in many Piedmont and mountain counties.

Prof. Wells reported on the sting nematode disease of peanuts. Experimental tests in North and South Carolina and Virginia show that EDB-85 applied as a broadcast, pre-plant treatment at 4½ gal. an acre, has given control. D-D at 20 gal. an acre, pre-plant, has also given satisfactory results.

Prof. Sasser's topic was nematode control in ornamentals and turfs. The most promising chemicals for woody ornamentals, using drench and injected methods, are V-C 13, Nemagon, Fumazone, and M-712.

Results of 1957 demonstration-tests with soil fumigation in tobacco were reviewed by Prof. Todd. Using Nemafume, Dorlone, Telone, D-D, and EDB on moderate cases of root knot nematode, the reduction results were 54%, 49%, 67%, 56%, and 69% respectively. In severe cases, the reductions were 30%, 31%, 47%, 62%, and 59% for the five fumigants. The best overall results were attributed to Telone, D-D, and EDB.

On meadow nematodes, most fumigants showed good results with D-D and Telone being outstanding. On stunt nematodes EDB was outstanding giving 100% reduction in moderate cases and 98% in severe. D-D and Telone also showed good results.

Prof. Nusbaum revealed his findings in chemical treatment for tobacco plant bed soils. Methyl bromide showed outstanding results for weed control, plant stands, and transplants. For root knot and meadow nematodes, methyl bromide gave 100% elimination and urea-cyanamide was reported good.

During the afternoon, the group's attention was focused on weed control with W. G. Westmoreland of the North Carolina Agricultural Experiment Station, presiding.

The first three speakers were Dr. G. C. Klingman, Mr. Westmoreland, and Dr. R. P. Upchurch, all of the North Carolina Agricultural Experiment Station.

Dr. Klingman opened the weed control discussions with a report on weed problems in Peru where the college maintains an experiment station with six researchers.

Dr. Upchurch has been devoting his time to a study of chemicals after application to the soil surface.

Dr. D. E. Moreland of the field crop research division of the USDA and the North Carolina experiment station reported results of his work on enzyme systems over the past 12 to 15 months. Dr. Moreland's studies have included the effects on herbicides on the systems at varying concentrations and the effects of light.

The weed control section concluded with a panel discussion of a problem of striga or "witchweed," parasite of corn. Members of the panel were Drs. Murray Pender, E. L. Robinson, and R. R. Nelson, all of the USDA.

This parasite poses a difficult problem since corn is one of its favorite host plants, and the parasite's seeds have been known to live in soil without plants for as long as 20 years. The problem is to rid the soil of seeds and to control seed population, he said.

Entomologists took over the final portion of the program. Leading off was Dr. G. J. Haeussler, assistant director of entomology research division, USDA, Washington, D.C., who spoke on resistance of insects to insecticides. "This is not a new problem," he began, "but it has been intensified by the increased use of the varied groups of insecticides now available." However, there are many new products being developed, and new approaches to the problem are under consideration for cultural control.

Staff members of the college's entomology department took over the remainder of the program. They were Dr. F. E. Gutherie, Dr. J. R. Dogger, Dr. R. T. Gast, Dr. W. M. Kulash, Prof. G. F. Turnipseed, Dr. C. H. Brett, and Prof. George D. Jones.

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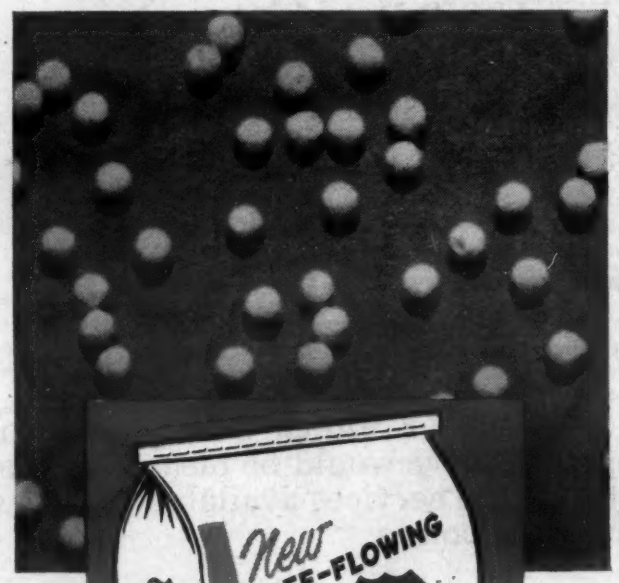

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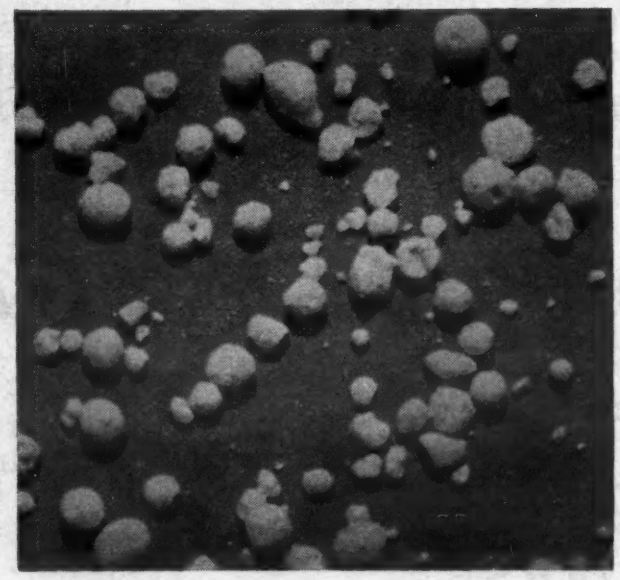

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SHOP TALK

OVER THE COUNTER

By Emmet J. Hoffman
Croplife Marketing Editor

There are five main merchandise lines which together give the White County Farm Bureau Cooperative Assn. store at Monticello, Ind., a healthy annual business. No single line, states Chalmers Reynold, assistant manager, could maintain the store, but each contributes peak sales volume during certain months of the year.

Their lines are: Fertilizers, bag and bulk; farm implements; farm supplies; insecticides; and farm hardware.

"Farmers need more merchandise and services today to operate a modern farm than they did 20-30 years ago," says Mr. Reynold, "so why shouldn't the farm supply store carry those extra lines and get the extra business? Why let it go somewhere else when it belongs here?"

Farm implement sales take care of about three months' volume during the year, fertilizer two months, insecticides one and a half months, farm hardware, two months and farm supplies (dairy equipment included) the other three and a half months.

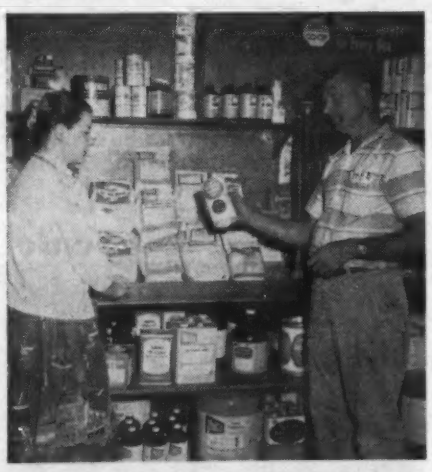
"This divides our business during the year and we devote lots of attention to each line as the season approaches," says Mr. Reynold, "for we want to make the most of it."

The store sells a lot of bag fertilizer to gardeners and small acreage farmers, and these customers often pick the bags up on trips to town. Also, the firm will sell bulk fertilizer and spread it for farmers. The fertilizer is hauled from a plant about 20 miles distant. The farmer gets a discount of $4 under the bag price per ton when he buys in bulk.

For spreading the farmer is charged about 25¢ per acre, with a minimum charge of $5. There are other cooperative stores through the county and each has a spreader service for its area.

Many farmers in the area have their own crop and weed sprayers, but they buy their farm chemicals from the White County store. Some farmers, Mr. Reynold reports, do not want mounted sprayers on separate units. They like to mount the sprayers on their tractors so they can use them for spraying fences, barns, etc.

The store has a large supply of insecticides for the garden and the farm. These package goods are displayed in small and large sizes along a wall area. The large containers are on bottom shelves and smaller packages on wooden shelves higher up.



Chalmers Reynold, assistant manager of the White County Farm Bureau Cooperative Assn. store at Monticello, Ind., sells insecticide to a customer.

"The average customer wants a great deal of information about spray materials," says Mr. Reynold, "and we are glad to give this information. It means that the customer uses the material correctly, in most instances, and gets better results. This means more future sales for us."

This dealer says the store personnel all realize that the average customer can be made to come back five to ten times per year, if he gets good service and satisfaction on his first trip in. Therefore, much effort is made to be friendly, helpful and courteous. This attitude is appreciated by customers for many of them are repeat patrons here many times during the year.

The store's farm hardware department is well patronized, for modern farms have need of many tools and hardware items for efficient operation. Under farm supplies, Mr. Reynold classifies poultry and barn equipment, dairy utensils and milking machine parts.

Some outboard motors are also sold. The store's farm implement service shop is able to handle repairs on outboard motors sold from the store, and also power mower and garden tractor service. Thus all lines handled at the store tie in well with existing display and service facilities.

"We are even selling some bulk milk tanks and farm freezers and refrigerators," says Mr. Reynold. "We also have gotten into the selling of pole buildings which are very popular with farmers around these areas."

Illinois Corn Borer Outlook Less Serious

URBANA, ILL.—The Illinois corn borer threat in 1958 is less serious than for the past few years. H. B. Petty, extension entomologist at the University of Illinois and Natural History Survey, bases this report on a survey conducted by entomologists last fall. They found the most borers in the west central counties. Borer populations are light in the northern counties and not economically important in the southern part of the state.

GRAIN SORGHUM

ST. PAUL—Despite its growing popularity, grain sorghum still isn't ready to take a major place in Minnesota agriculture, R. G. Robinson, University of Minnesota agronomist, said at a Farm and Home Week crop improvement session. Present hybrids are still either too late in maturity, too slow in drying, too tall, too susceptible to lodging or too easily smothered out by weeds, Mr. Robinson said.

FULL LINE OF INSECTICIDES—A full line of pesticides and other farm and garden chemicals is stocked by E-Z Acres Lawn & Garden Supplies, 135th & Capitol Drive, Milwaukee. Here the owners, Mr. and Mrs. Edward Zeilinger check their spray supplies. Mr. Zeilinger, a former landscape man and gardener, relies on his own experiences to advise customers on farm and garden chemicals.

Milwaukee Area Store Serves Three Classes of Customers

By Al P. Nelson
Croplife Special Writer

Close to every large city, there are three classes of trade, and the farm and garden supplies store which has products and services for each class, can swell store traffic, sales and profit.

These three classes of trade, state Mr. and Mrs. Edward Zeilinger, who operate E-Z Acres Lawn & Garden Supplies, 135th & Capitol Drive, Milwaukee, are:

1. Owners of large dairy and poultry farms, or crop farmers.
2. Small acre part time farmers.
3. Home owners with sizable vegetable or flower gardens, as well as homeowners with lawns.

"We cater to all three types of trade," states Mr. Zeilinger. "Large farm owners come here for power mowers, tree trimming tools, garden and flower seeds and insecticides, as well as some farm hardware items. Then, too, our wide garden and lawn supplies department appeals to home owners and part time gardeners."

If ever a husband and wife combination worked out well in business, this one does. For example, Mr. Zeilinger is a former landscape man and gardener, and his wife operated a 3½ acre truck farm adjoining the 28 by 50-ft. store. Through Mrs. Zeilinger's years of raising flowers, vegetables and fruit, she garnered some excellent agricultural experience. Her customers know this, and they come to her with their gardening problems, ranging from plowing to dusting and harvesting.

And she is glad to help them, because this type of customer assistance builds good will, mouth to mouth advertising, and builds extra sales as well.

On the other hand, Mr. Zeilinger is able to advise his customers on landscaping and lawn care, etc. The store does not sell shrubs as of now, but plans to add a line soon. However, there is plenty to do advising folks about gardens, lawns and similar projects, reports Mr. Zeilinger.

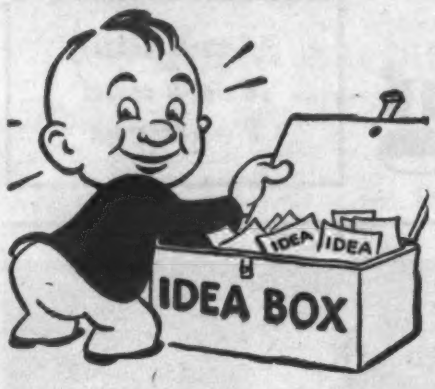
Established in 1952, the E-Z Acres store has grown in volume every year. In fact, the job of tending store has become so heavy that Mrs. Zeilinger has turned her truck farm into grass for the time being, but she uses her garden knowledge to help customers choose and plant seeds which bear good results, and this service brings customers back to buy the next year, too.

During the fall and winter months when business is lighter, Mrs. Zeilinger attends all the county meetings of the agricultural extension service. These meetings are usually staged by the county agent and other extension officials. Mrs. Zeilinger says that she learns a great deal about fertilizers, new insecticides and gardening in general at such meetings. She puts this information to good use in her sales relations with customers.

The store has a large insecticide and sprayer section which is also patronized by farmers as well as

(Continued on page 12)

ATTRACTIVE STORE FRONT—E-Z Acres Lawn & Garden Supplies, Milwaukee, presents a neat looking appearance to prospects, as the above picture indicates. It has become headquarters for gardeners, home owners, small farmers and orchard owners in the trade area.



What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6683—Fertilizer Buying Survey

A brochure entitled, "Four State Fertilizer Buying Study," has been prepared by National Analysts, Inc., for Nitrogen Division, Allied Chemical & Dye Corp. Four hundred farmers were interviewed in Michigan, Indiana, Illinois and Ohio and the results are presented in the brochure. Farmers who answered the survey questions said that the use of fertilizer more than any other single factor has accounted for improved crops and crop production. The brochure also indicates that the dealer is the main source of information about form, analysis and amount of fertilizer to be used. Check No. 6683 on the coupon and mail it to secure the brochure.

No. 6682—Liquid Fertilizer Booklet

The Sohio Chemical Co. has prepared a detailed book dealing with liquid fertilizer manufacture. The book is entitled "Sohiogen Nitrogen Solutions." The company states, "As a service to our customers now operating liquid fertilizer manufacturing plants and those contemplating liquid fertilizer manufacture, we have attempted to consolidate information

accumulated from various sources with our own recent research contributions." Contents include liquid fertilizer definition and history, how liquid fertilizers are made, chemical and physical properties, how to formulate liquid fertilizers (calculations), handling nitrogen solutions, safety and "Sohiogen" products. Secure the booklet without charge by checking No. 6682 on the coupon and mailing it to Croplife. Please print name and address.

No. 6684—Rock Phosphate Booklet

A periodical publication, "Bigger Acres," is made available by the Robin Jones Phosphate Co. to show the advantages of using finely ground rock phosphate in restoring depleted minerals in the soil. The publication details case studies to show how rock phosphate is used in increasing farm production at minimum cost. Well illustrated, the pamphlet is suitable for posting on a dealer's bulletin board. To receive the publication, check No. 6684 on the coupon and mail it to Croplife. Please print your name and address.

Also Available

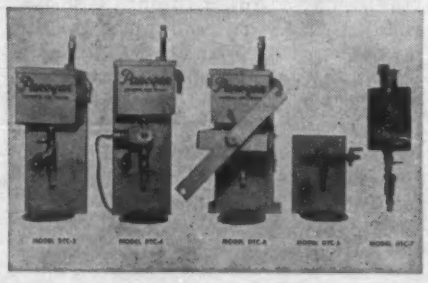
The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 6678—Brush Control Booklet

Weeds and brush along power and telephone lines, railroad right-of-ways, pipelines, public highways and on industrial sites such as tank farms can be cleared chemically at a cost averaging one-third below that of hand or mechanical cutting, claims a booklet on the subject published by the Monsanto Chemical Co. The 24-page booklet states that various formulations of 2,4-D and 2,4,5-T and mixtures of these chemicals now make possible year-round programs of foliage, basal and stump spraying for maximum weed and brush control at substantial long-term savings of time and money. A feature of the new booklet is a chart which lists more than 50 common woody plants controllable with 2,4-D, 2,4,5-T and combinations of these chemicals and the recommended rates of foliage spray for each. Secure the booklet by checking No. 6678 on the coupon and mailing it to Croplife. Please print or type name and address.

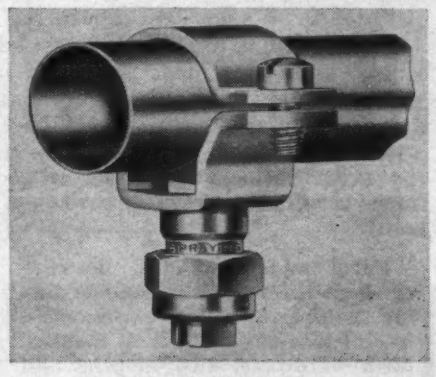
No. 5927—Conversion Kits

The Panogen Co. has announced a series of five "dust-to-Panogen" conversion kits. With the help of one of these kits, the owner of a dust treater, grain-loading auger, or any other system which adequately mixes seed, may use liquid Panogen seed treatment and do so inexpensively, company officials claim. Various kit models are designed for gravity feed from elevated containers, for use where the container of liquid is in high locations and for use where the liquid is circulated via a pump. Further information may be obtained by checking No. 5927 on the coupon and mailing it to this publication. Please print or type the name and address.



No. 6680—Spray Nozzles

A newly designed group of split-eyelet spray nozzles and connectors for mounting to spray booms has been announced by the Spraying Systems Co. Company officials state that cadmium plated heavy steel that will not bend or break is used for the clamp for strength. Brass, aluminum or stainless steel are used for the parts that touch chemicals. The split-eyelet units are supplied as "No. 7421 TeeJet Split-Eyelet Spray Nozzles" and as "No. 7521 TeeJet Split-Eyelet Connectors." Sizes are offered to fit all standard spray boom piping and tubing, states the manufacturer. A wide range of interchangeable orifice tips may be used with the nozzles. Shown is the No. 7421 nozzle with flat spray tip. Secure details by checking No. 6680 on the coupon and mailing it to Croplife. Please print name and address.



No. 6681—Valves

A free 6-page bulletin (J-160) provides information on "OPW-Jordan Sliding Gate Pressure Reducing Valves" manufactured by the Jordan Industrial Sales Division of OPW Corp. The bulletin describes valve features, design changes and method of operation with corrosive and non-corrosive liquids. It contains flow capacity charts, dimensional drawings, control ranges and material specifications. Check No. 6681 on the coupon and mail it to secure the bulletin. Please print or type name and address.

No. 6679—Fertilizer Bagger

A four-page bulletin describing the new Bemis Rapid-Weigh bagger for fertilizers is now available. The bulletin contains performance and engineering data on the bagger, which fills bags with pelleted, granular and meal type fertilizers at speeds up to 24-100 lb. bags per minute. Weight tolerances average plus or minus 2 oz., according to the manufacturer, the Bemis Bro. Bag Co. Secure the bulletin by checking No. 6679 on the coupon and mailing it to Croplife. Please print name and address.

No. 5923—Bulk Scale

The newest addition to the materials-handling line of the Burrows Equipment Co. is a 1,000-lb. model 1200 bulk scale. Company officials said the "heavy-duty scale features a built-in Fairbanks-Morse scale to weigh any lot of material down to the ounce, accurately and quickly, as it is handled." The unit is 38 in. high and 30 in. wide, and has a hopper 40 in. in length. All controls—two-wheel foot-brake, scale, dump handle and pushing handle—are lo-

Send me information on the items marked:

- ☐ No. 5911—Bag
- ☐ No. 5923—Bulk Scale
- ☐ No. 5927—Conversion Kits
- ☐ No. 5929—Tank, Flatbed
- ☐ No. 6676—Mixer-Spreader
- ☐ No. 6677—Pumps
- ☐ No. 6678—Brush Control
- ☐ No. 6679—Bagger
- ☐ No. 6680—Nozzles
- ☐ No. 6681—Valves
- ☐ No. 6682—Liquid Fertilizer
- ☐ No. 6683—Fertilizer Survey
- ☐ No. 6684—Rock Phosphate

(PLEASE PRINT OR TYPE)

NAME .....

COMPANY .....

ADDRESS .....

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS PERMIT No. 2
(Sec. 34.9, P. L. & R.)
MINNEAPOLIS, MINN.

BUSINESS REPLY ENVELOPE
No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

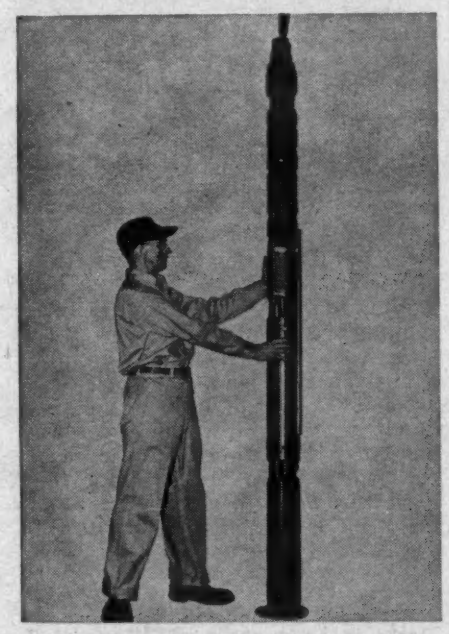
P. O. Box 67

Reader Service Dept. Minneapolis 1, Minn.

cated at the rear, within easy reach of the operator. Standard equipment includes 10 in. rubber wheels at the front and 6 in. roller bearing swivel casters at the rear. Details may be secured by checking No. 5923 on the coupon and mailing it to this publication.

No. 6677—Submersible Pumps

A new line of 6-in. diameter submersible pumps has been placed into production by the F. E. Myers & Bro. Co. The new line is particularly suitable for deep well installations where large volumes of water are needed,



company officials state. The pump can be installed in wells as deep as 700 ft. The line's top capacity at a 50-ft. depth is more than 13,000 gal. of water an hour. It is called the "SC" submersible pump and operates completely under water. It is a combined pump and motor unit. The pump is available in 5, 7½, 10 and 15 hp. sizes. Secure details by checking No. 6677 on the coupon and mailing it to Croplife. Please print or type name and address.

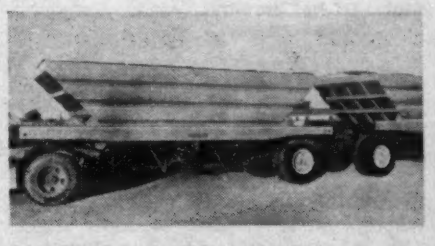
No. 6676—Mixer-Spreader

A new mixer-spreader optional feature to the Simonsen fertilizer spreader has been placed on the market by the Simonsen Manufacturing Co. This development was designed by Simonsen engineers to meet the needs of operators who want to stock straight ingredients yet offer a wide variety of ratios, company officials said. It permits carrying a small inventory while giving added service. It is claimed that the mixer-spreader accurately mixes the ingredients as it

spreads. The compartments are filled with the ingredients and the gate on each compartment is adjusted for the desired ratio. A stainless steel conveyor carries all the ingredients to the distributor fan where they are mixed and spread. The feature is available, with a choice of two or three compartments. Existing Simonsen fertilizer spreader boxes can be modified to the new mixer-spreader. More information may be obtained by checking No. 6676 on the coupon and mailing it to Croplife. Please print or type name and address.

No. 5929—Combination Tank, Flatbed

The Fruehauf Trailer Co. is producing a combination tank and flatbed unit suitable for hauling bulk grain, rice, etc., in the tank. For hauling other products, the tank can



be lifted out and the floor can be reinstalled, making the trailer a flatbed. Hopper-type units are illustrated. The company's semi-trailers are 23 ft. long and the 4-wheelers are 21 ft. long. Secure details by checking No. 5929 on the coupon and mailing it to this publication. Please print or type name and address.

No. 5911—Multiwall Paper Bag

A new type of multiwall paper bag having as its main feature a pasted valve reducing insert that permits standardization of pallet patterns regardless of the density of the packaged product has been developed by the Multiwall Bag Division of the Owens-Illinois Glass Co. in cooperation with the Wyandotte Chemicals Corp. The bag is said to further lend itself more readily to high-stacking. The valve reducing insert makes it possible for the company to make a bag of standard length and width—but with a thickness when filled that may range anywhere from 3½ in.

up to 6½ in. The new bag is three-ply and uses two 40 basis weight sheets and one 50 basis weight sheet of natural Kraft paper. Secure details by checking No. 5911 on the coupon and mailing it to this publication. Please print or type name and address.

SAFETY PAMPHLETS

CHICAGO—The National Safety Council has published two new pamphlets on industrial safety and housekeeping. "We Know Better," a multicolor pamphlet, points out that most workers know their jobs, have experience and don't want to hurt others or themselves. Often, however, they disregard good sense. The other pamphlet, "Your Future . . . Keep It Clean," concentrates on housekeeping in the factory, noting that good housekeeping makes work easier, smoother, quicker—and safer.

Advertisement

An Important Announcement to Fertilizer Manufacturers:

After 12 Years of Secret Research Spencer Chemical Company Takes Pride In . . .

ANNOUNCING NEW SPENSOL® GREEEN™

40% Less Corrosive than even SPENSOL has ever been before—far less corrosive than other solutions

After accelerated testing with new SPENSOL GREEEN, there is practically no corrosion at the weld! The sandblasted surface of the test strip is unmarred.
After accelerated test with an old-fashioned ammonium nitrate solution, the solution had already started to eat through the weld!

The scales show the difference in corrosion damage. The metal panel on the right was immersed in an ammoniating solution containing the best inhibitor on the market up to this time. The panel on the left was immersed in SPENSOL GREEEN. Both panels were sandblasted first to remove mill scale and expose parent metal. Both were tested for the same length of time. But SPENSOL GREEEN is so much less corrosive that the panel on the right lost more than one and a half times as much weight as the SPENSOL GREEEN panel.

Spencer Technical Director Ralph Miller reveals . . .

How New SPENSOL GREEEN Can Double The Life of Storage Tanks, Sparger and Distribution System:

Ralph Miller

NOW, for the same price you have been paying for any leading brand of ammoniating solution, you can have an ammonium nitrate solution that can cut your equipment replacement costs in half and eliminate most of the down-time caused by corrosion!

The ammonium nitrate solution is Spencer Chemical Company's new SPENSOL GREEEN. New SPENSOL GREEEN contains a special inhibitor that is at least 40% more effective* than other corrosion inhibitors now being used! This means that new SPENSOL GREEEN can greatly reduce corrosion problems.

Think of The Savings in Equipment Costs

No need to replace carbon steel storage tanks every three to five years! Carbon steel storage tanks, sparger, pipe lines, fittings, etc., last nearly *twice* as long when new SPENSOL GREEEN is your ammonium nitrate solution!

Think of The Savings in Reduced Down-Time

When you use SPENSOL GREEEN, you take an important step toward ending production hold-ups caused by corroded lines in the distributing system!

*As measured by the comparative weight loss of 2" x 3" mild steel test plates, each containing a weld bead. There is no standard test for corrosion, but this method gives accurate, reproducible results.

INSIST ON SPENSOL GREEEN
(SPENCER NITROGEN SOLUTIONS)

SPENCER

America's Growing Name in Chemicals

As you know, delays and down-time can be mighty costly this time of year with the busy season at hand. But with SPENSOL GREEEN, you have *extra* assurance of keeping production at the top level of efficiency!

No Changes In Your Mixing Process

You use SPENSOL GREEEN the same way you would use any ordinary ammonium nitrate solution. SPENSOL GREEEN can be added to the ammoniator, whether your plant is set up for continuous production or a batch process operation!

Since the basic specifications and mixing properties of SPENSOL GREEEN have not been changed, the handling, measuring and metering are the same as they were with SPENSOL before SPENSOL GREEEN was developed!

Will Not Change Color of Your Fertilizer

Although SPENSOL GREEEN is a definite green color, it will not change the color of your finished product.

Available in all SPENSOL grades, SPENSOL GREEEN comes to you at no increase in price!

Why Settle for Less Than New SPENSOL GREEEN?

So why buy ammonium nitrate solutions that give you less corrosion control, when new SPENSOL GREEEN costs you no more?

Switch to SPENSOL GREEEN and see the difference in increased life of equipment, *plus* big reductions in down-time!

For more information, write, wire or phone Spencer Chemical Company, Dwight Bldg., Kansas City 5, Mo.

THREE CLASSES

(Continued from page 9)

home gardeners. Much space is devoted to showing this line. The Zeilingers through their study and meeting attendance are well equipped to give prospects insecticide information about various crop and fruit tree needs.

"I even attend the fruit grower meetings in the Milwaukee area," points out Mrs. Zeilinger, "because we have quite a few orchard growers coming here for supplies."

The average customer will spend between $20 and $400 annually at this farm supplies and garden store. The person who spends $400 may invest part of this sum in a power mower. Last year the store sold 65 power mowers, 20 used ones, and 30 Rototillers, besides a number of power saws and other power tools. Practically all power mower and Rototiller customers also bought garden, lawn and other items.

Mr. Zeilinger is well trained in the servicing of mowers and this is an important factor in gaining customer confidence. The store also sells Sno Blowers, but light snow in this section the last few years has held down sales.

Plant food in small packages, small bags of fertilizer, vegetable and potted plants, are big sellers here every year.

For customers who want a time installment plan for purchasing garden and lawn equipment, the store has an arrangement with a local bank for such a program. The time payment plan is advertised throughout the store. However, a surprising number of machinery deals, in both mowers and garden tractors, are for cash.

During the last few years, Mr. Zeilinger and his wife have added a line of tree trimming tools, and there is a considerable demand for these both from farmers and suburban residents. The store is also experimenting with a bird supplies line and has recently added some toys to help swell the volume of business. Paints and a small line of hardware also bring in other customers.

"There is no newspaper in this suburban area," says Mr. Zeilinger, "and so we are using 10,000 lines of advertising per year in the Milwaukee Journal, a metropolitan area newspaper. We feel that it is important to keep our name and products before the public. Many of our customers see our ads and tell us about them."

Located on a well traveled highway, and with a 50 ft. front, the Zeilingers make excellent use of outdoor display all seasons of the year. There is ample off-the-highway parking space. Lighting of the store at night, too, helps to attract both farmers and city people.

FARM SERVICE DATA

Extension Station Reports

On some Minnesota soils at least, nitrogen is the most important plant nutrient for increasing oat yields, according to recent University of Minnesota research in southern Minnesota.

For example, A. C. Caldwell, University soils scientist, says 60 and 80 lb. rates of nitrogen per acre doubled oat yields on Skyberg silt loam. These treatments also nearly doubled amount of straw produced per acre.

A test on Kenyon silt loam showed that nitrogen was the most important limiting nutrient. Research workers applied nitrogen, phosphate and potash, alone and in combination, to oats. In each case, nitrogen increased yields by more than 20 bu. per acre, while increases from either phosphate or potash alone were about 5 or 6 bu. per acre.

Even better results came from using complete fertilizer—one containing all three plant nutrients.

★

Bluegrass pasture can be used successfully in winter to stretch the hay supply for beef brood cows in southern Ohio, according to R. R. Davis, agronomist, and E. W. Klosterman, animal scientist, of the Ohio Agricultural Experiment station in Wooster. They conducted their tests at the southeastern substation in Meigs County and found that an acre of winter pasture replaced an average of about ⅔ ton of hay each year.

Mr. Davis said that well-fertilized, well-managed bluegrass can make up a major part of the beef animal's winter feed. Pasture intended for this purpose should have adequate lime, phosphorus and potash to produce a good sod, he said.

★

Some Michigan farmers are failing to get the full benefits of irrigation because they don't use enough seed or fertilizer, believes Ray Hoglund, farm economist at Michigan State University.

He cites the experience of a Montcalm County potato grower to support his belief. This farmer grows 40 acres of irrigated and 40 acres of non-irrigated potatoes.

On the non-irrigated potatoes, he used about 26 bu. of seed and applied 800 lb. of 5-20-20 fertilizer at planting time and 100 lb. of ammonium nitrate as a side dressing. These potatoes yielded 320 bu. per acre, a good yield for non-irrigated potatoes last summer.

On the irrigated potatoes, this farmer used only six bushels more seed and 200 lb. more 5-20-20 fertilizer. All other practices were the same for both crops.

The irrigated potatoes yielded 460 bu. per acre—140 bu. more than the non-irrigated. Irrigation, then added about $3,200 to net income on the total 40 acres.

But, Mr. Hoglund points out, if this farmer had used more seed and fertilizer and possibly one more application of water, he could have boosted yields to 500 bu. and added $550 more to net income.

★

M. D. Weldon, extension agronomist at the University of Nebraska, says thousands of acres of land, mostly in eastern parts of the state, need lime.

"Liming makes your fertilizer worth more," Mr. Weldon says. "Phosphate on limed land is often two to four times as beneficial as on land which is deficient in lime as well as phosphorus. Nitrogen and mixed fertilizers, too, are more effective on limed land."

★

Dalapon has given good results in controlling bermuda and Johnson grass in test fields at the Oklahoma agricultural experiment station during the past two years.

W. C. Elder, Oklahoma State University agronomist, applied 5-10 lb. of Dalapon per acre last year on growing bermuda in early May, tilled the soil about two weeks and let the bermuda grass rootstalks green up, then applied the second application of Dalapon. A sorghum crop was planted in early June and actually had little bermuda grass to compete with. Dalapon also works good as a spot treatment if applied in heavier dosages, Mr. Elder said.

★

Illinois agronomists point out that high soil fertility and a high plant population must go together to get top corn yields per acre. Experience in 1957 at the University of Illinois Morrow Plots, the oldest soil experiment field in America, bears this out.

Corn yields were 19 bu. higher per acre when the plant population was large enough to make full use of the plant food in the soil, the research shows.

In the test, a corn-oats rotation receiving a manure, lime and phosphorus treatment was divided by the agronomists. One part of the plot had a planting rate that gave 12,000 corn plants to the acre. The other had 16,000 plants per acre. The soil treatments were the same on both parts of the plot.

Yields were 133 bu. per acre from the area with 16,000 plants. The lower population area made 114 bu. per acre.

★

From Ohio farm management specialists comes the word that farmers can help beat the pinch of high production costs and keep their operations on a money-making basis in months to come by increasing yields per acre, per animal and per man.

Here's the advice of these Ohio State University extension men:

"Use the most efficient and best methods in crop and livestock production. Make full use of all available resources and facilities.

"Guess work, obsolete methods, unnecessary risks and major mistakes are extremely costly under present economic conditions."

Farm economists at other midwestern universities point out that farmers need to have exact information on costs of production in order to operate profitably.

Profits go down the drain when yields are low and costs are high, they say.

The Middle West Soil Improvement Committee points out that the proper use of fertilizer can be a major factor in the job of reducing unit costs of production. It can help a farmer get maximum returns for every acre he has in crops, every hour he works and every dollar he invests.

The committee cites U.S. Department of Agriculture statistics which show that fertilizer is the farmer's best buy today. Prices of plant food have remained low while costs of other items going into farm production have risen as much as 56%, these figures show.

By increasing yields and reducing costs, fertilizer can help return anywhere from $2.50 to $5 for every dollar a farmer invests in plant food, says the committee.

★

Nematodes—tiny, worm-like plant parasites—are robbing Minnesota farmers of part of their crop yields every year.

Donald Taylor, University of Minnesota nematologist, states that a recent survey shows every major crop in Minnesota is suffering nematode damage.

Mr. Taylor said he has collected some 400 soil and plant samples in Minnesota during the past two years. In these samples, he found nematodes in numbers large enough to reduce crop yields in alfalfa, corn, flax, peas, clover, soybeans, strawberries and nursery crops. He learned there are some 40 species of nematodes in the state, but five major types seem to be of general importance.

While damage was worse in some samples than in others, no area of the state is free from the nematode problem, the survey showed.

Nematodes have been around for hundreds of years, but only recently have they been thought of as an agricultural problem. In feeding, they leave tiny holes in plant roots. Feeding itself is damaging to crops, and the holes may be pathways for other disease organisms.

Mr. Taylor said in recent field tests in four areas of Minnesota, pea yields were increased 21% by killing nematodes with soil fumigation. This might not be possible in other crops, but it does show how much damage nematodes can cause.

Nematodes multiply rapidly, Mr. Taylor says. In a greenhouse experiment, he said he put 500 nematodes on a plant in sterile soil and recovered 130,000 six months later. Therefore, if used at all, fumigation would probably need to be done annually.

★

An insecticide containing a chemical that entices bees away from sprayed crops even though a strong blossoming aroma is floating over the field may be among new developments of the Oklahoma agricultural experiment station.

The value of such a chemical would lie in the fact that farmers would be able to spray their crops for insects and, at the same time, would not be spraying with a material that would poison honey bees as they pollinated the crops.

G. A. Bieberdorf, Oklahoma State University entomologist, says one chemical (2-Hydroxyethyl-tert-octyl sulfide) has shown "very promising results" and several others are being considered for their bee repellent properties. Between 1,200 and 1,500 different chemicals have been tested for bee repellence at the Oklahoma station.

"So far we have been impressed with the preliminary work," Mr. Bieberdorf said. "We hope that it will not be too long before a satisfactory repellent can be recommended for mixing with an insecticide at the time of spraying."

USE
Field Master
SPRAY EQUIPMENT
for
LOW COST APPLICATION
of fertilizer—insecticides—weedicides.
Your biggest low-price sprayer value. High in quality—above the average in performance. Field Master Sprayers available as complete units or as separate kits: Trailer, Boom Assembly, Boomless Kit, Pump Box, Tank, etc. Write for Free Colorful Field Master brochure.
The Broyhill Company — Dakota City, Nebraska

Analyzing the Farm Store's Profit and Loss Statement

In reviewing the results of the past year's operation, the dealer can spot areas where improvements are needed

● By J. E. Bedford, Director
School of Merchandising, Armstrong College

Balancing the books at the end of the year to determine how much income tax the government is going to collect for the past year's operation of a farm store business is mighty discouraging. It is a must, however, in successful retail store management. There is a way to take some of the more disagreeable features out of this annual job of the year-end analysis of the profit and loss statement.

Balancing the books becomes more pleasant—if possible—when the results of the past year are reviewed with an eye to the ways the future profits of the business can be improved. This year-end review of the profit and loss statement can be one of the most productive times which can be spent in sound management thinking about the future of the business.

Here are some of the points to be considered in a review of the results of past year's operation. When the profit and loss statement has been analyzed, management policies that should be adopted and operation weaknesses that should be avoided in the future plan for more profit will be discovered.

OPERATING EXPENSES: To determine the operating expense percent of sales in the business, all expenses should be added together for a total figure. This should include all expenses which occur in operating the business—salaries, rent, advertising, delivery, supplies, taxes (not income taxes), interest, insurance, depreciation, utilities and handling.

When the total operating expense figure has been determined, the next step is to take this figure and divide it by the net sales figure for the year. The result will be the operating expense percentage to use for comparison purposes.

For instance, assume that the sales of the business were $200,000 for the year and total operating expenses were $50,000 for the year. By dividing the $50,000 by the $200,000 we find that the operating expense percent is 25%. If the stock is marked up 30% on the average of sales, it will produce a net profit of 5% of sales.

Note: This is 40% of sales—not 40% of cost—for the initial markup.

If the operating expense percent figure is below last year, it can be assumed that the operation is fine and that the store should be realizing a good net profit. If, on the other hand, the operating percent figure is below last year, it indicates that some of the expense items may be out of line.

These may or may not be expense accounts that can be controlled with good management control procedures. However, they should be examined item by item to see if any change would result in a lower operating percent figure, thus producing more net profit for the business.

Usually the cause of a high expense ratio is poor management in controlling expenses. This can be overcome by a careful check on the various expense items — rent, advertising, salaries, supplies, delivery, handling, telephone, light and heat. These are some of the controllable figures and can be reduced through more efficient management of the business.

SELLING COST: Sales are the backbone of any dealer's operation. If this salary expense is reduced too much it may have an adverse effect on the entire operation of the business. To determine the percentage of employee salaries to sales, the total salary expense is divided by the total net sales. This will give a percentage figure that will indicate the percentage of selling cost.

When administrative salaries are deducted from this figure, it gives a better picture of the exact selling cost for the salesmen in the business.

If the selling cost figures for the past year exceed what they have been in the past, it may be from these causes:

1. Inefficient use of the help in the store.
2. Poor store layout, making it difficult to get top performance from all employees.
3. Hiring too many salesmen for the amount of sales volume being done.
4. The result of high union wages that must be paid in the contract with the union.

The analysis of the selling cost will spotlight any trouble. Then, a little thought on the cause of this problem will point the way to a solution that will give more net profit on the operation of the retail business.

OCCUPANCY EXPENSE: This percentage figure is determined by dividing the total occupancy expense by the sales for the year. For instance, by dividing $200,000 (annual sales) into $6,000 (rent expense), it is found that the occupancy expense percentage is 3%.

Normally this figure should remain about the same each year or decline as sales advance. However, when a new lease is negotiated it may be found that this figure will change when the new lease goes into effect.

When it is higher this year than last (and no lease change took place), the owner may find that he is renting more space than is necessary for the operation of his business. Or, if lower, he may find that he is cramped for space and is having extra handling expense that could be avoided with larger quarters.

ADVERTISING EXPENSE: Dividing the total advertising expense by the net sales figure will give the percentage of advertising expense to net sales. For instance, in the example cited of $200,000 annual sales, the operator will divide this into his advertising expense of $10,000 for a percentage figure of 5%.

The advertising expense figure will depend on many factors—size and location of the business, the nature of the local competition, the policy of the business, and the effectiveness of advertising. However, the figure for advertising should be carefully reviewed because it may be the spot where total net profit is suffering.

Low advertising expense percentage figures which do not increase sales or help build good will for the business may mean that more and better advertising would bring all

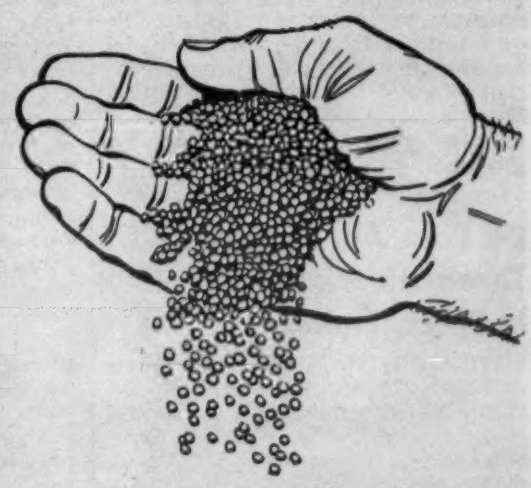
QUALITY
in PRODUCT
in SERVICE

PELLEFORM
Pelleform is the modern fertilizer developed for more efficient crop production. It is mechanically better, flows smoothly and is dustless. Pelleform pellets are uniform for even distribution without waste or burn.

HIGH ANALYSIS
Smith-Douglass new higher analysis fertilizer means more plant food units per bag . . . per ton. For example, a 50-pound bag of 6-24-24 Pelleform has more plant food than an 80-pound bag of lower analysis 3-12-12.

TRIPLE ACTING
Smith-Douglass Pelleform . . .
STARTS FASTER . . . Contains more water soluble phosphate.
FEEDS STEADY . . . Releases plant food steadily throughout the growing season.
LASTS LONGER . . . Contains leach-resistant nitrogen allowing the crop to feed longer.

27 GRAN
A NEW fertilizer, 27 GRAN (granular 27% superphosphate) has just been introduced by Smith-Douglass. Its advantages are ease of handling, no dust, no build-up in bulk type spreaders, better distribution, more stabilized form of phosphorus in the soil, and more economical to use.



Smith-Douglass Dealers sell Quality . . . in product . . . in service. Both are outstanding! In the research and production of fine fertilizers . . . Smith-Douglass *is* outstanding. Smith-Douglass leaves nothing to chance in controlling quality in each step of its manufacturing processes. Every fertilizer bearing the S-D trademark is formulated specifically . . . a perfect balance of the finest materials. And Smith-Douglass means service! Smith-Douglass guides their dealers through long experience and thorough study of local soils, crops and fertility requirements, helping them to better service farmers in their area. Smith-Douglass dealers realize good earnings because they have more to sell . . . quality, new higher analysis fertilizers, service and results. Let us show you good proof that Smith-Douglass fertilizers are the farmers' "Best Buy" . . . and the dealers too.

SMITH-DOUGLASS FERTILIZERS

SMITH-DOUGLASS CO., INC.
Contact—Box 457, Streator, Illinois / Box 850, Albert Lea, Minnesota

Sign of Service and Dependability

other operating figures into line with profitable operation. Advertising may seem to cost money on first examination, but most consistent advertisers will agree that advertising doesn't cost . . . . it pays!

STOCK TURNOVER RATE: Stock investments can be reduced in farm stores by increasing the rate of stock turnover. This rate of stock turnover figure is determined by taking the inventory figure for the beginning of each month plus the end of the year inventory figure. All of these figures should be at retail valuation. This total is then divided by 13 to arrive at the average monthly inventory.

For instance, if the total of the inventories was $520,000, this would be divided by 13 for an average inventory of $40,000. Next, this figure would be divided into the annual sales of $200,000 for a stock turnover rate of five.

When the stock turnover rate is higher than last year, it indicates that sales are being lost by an inadequate assortment of stock to satisfy all of the customer's wants. On the other hand, when the stock turnover rate is lower, it indicates that too much stock is being carried for the total sales volume of the business.

By analyzing the profit and loss statement at the end of the year, the operator can quickly tell where his own trouble (if any) lies. Then, he can take the necessary corrective action to avoid this loss in the future. This year-end analysis can prove a valuable guide in the profit planning program.

Du Pont Announces Three Appointments In Polychemicals

WILMINGTON, DEL.—The chemicals sales division of Du Pont's polychemicals department has announced new positions for Dr. Myers F. Gribbins, Jac O. Ullman and Dr. Frank G. Keenen.

Dr. Gribbins, formerly assistant sales manager of the nitrogen products section, has been named manager of the ammonia products section. Mr. Ullman, former product specialist with the plastics sales division, replaces Dr. Gribbins. Dr. Keenen moves from the post of manager of the ammonia products section to associate laboratory director for the department's sales service laboratory at Chestnut Run, near Wilmington.

Dr. Gribbins joined Du Pont in 1942 as a chemist for the ammonia department at the company's experimental station near Wilmington. A native of Tampa, Fla., Dr. Gribbins was graduated from the University of Miami in 1938 with a degree in chemistry and received a Ph.D. degree in 1942 from Pennsylvania State University.

Mr. Ullman joined Du Pont in 1937 as a chemical engineer for the plastics sales division of the polychemicals department. He was born at Natchez, Miss., and was graduated from Alabama Polytechnic Institute in 1937 with a degree in chemical engineering.

Dr. Keenen joined the company in 1926 as a chemist at the Belle, W. Va., Works.

Doing Business With

Oscar & Pat

By AL P. NELSON
Croplife Special Writer

When Tillie Mason, the plump ulcerish bookkeeper, came to work that mid-winter morning, she found Oscar as usual was there ahead of her. Always Oscar was first at work; he prided himself on that. But this morning his face was red with anger, as he opened the door for Tillie.

"Just look what he has done now!" he exploded. "That Irisher!"

He took the astonished Tillie by the arm, and before she could take off her hat and coat, marched her like an erring schoolgirl to the railed-in enclosure that separated the office from the salesroom.

"Look what he has hung on the wall!" Oscar thundered.

Tillie, her plump cheeks red from the cold, stared at a large printed placard on the wall near Pat McGillicuddy's desk. The placard showed a picture of a big, empty swivel chair. In large black type she saw this headline "Beware of the Chair!" Other copy said, "The Most Dangerous Sales Hazard! When You Are Sitting on It and Not Out Selling . . . Your Competitor May Be Outselling You!"

"Ach!" Oscar said sharply, his fists clenched, "isn't it terrible!"

"W—well no," replied Tillie. "What's so terrible about it?"

"He put that on the wall just to get me madt!" Oscar yelled. "He is always makin' fun of me because I figure the discounts, try to save money to pay biils and buildt a reserve in the bank. He—he did that to me, that Irisher."

"Oh, I don't think so," Tillie replied levelly. "You know how Pat is always so interested in selling. He likes slogans like that." She went closer to the placard. "Why, there's a name on the bottom in small type. It's from some Chicago sales firm. That's—that's a—a piece of their advertising. I suppose it appealed to Pat and so he tacked it on the wall."

"Ach, it don't appeal to me," Oscar cried. "It makes me sick. If Pat wouldt sit in his chair a little more like I do, and not sell so much fertilizer to farmers who can't pay, then we would really start to go someplace. Sell, sell, sell—if you talk to Pat you think that that is all there is to this business. I would like to see him run this business all by himself. He wouldt last about a month, maybe less."

Tillie began taking off her coat. "Oh, here comes Pat now, Oscar. Why don't you ask him?"

"Ach, I will do that," Oscar said, his face white. "I can't wait."

Tall, blue eyed Pat McGillicuddy, his cheeks pink from the cold, came in and began removing his fur collared stormcoat while walking to the desk. "Good morning," he greeted. "Wonderful morning."

Tillie smiled a return greeting, but Oscar didn't. He waited until Pat got to his desk, then he pointed quickly at the wall. "I don't like that!" he thundered.

Pat looked startled at this outburst. A puzzled look came into his eyes. "You don't like what?"

"That sign on the wall about the chair!" Oscar snapped. "You are poking fun at me because I sit here and figure discounts so much. I know it. I can see it in your face a hundred times a day."

Pat looked closer at the sign, then turned to Oscar. "Why, Oscar," he said, "you're mistaken. A salesman gave me that sign the other day. It appeals to me. I put it up there to remind me in 1958 to get out and sell. This is a year when competition is tougher than ever before. I want to remind myself to spend less time at my desk and more time out talking to people who use fertilizer and farm chemicals, and sell more to them."

"What's wrong with sitting at a desk?" Oscar said icily. "Somebody with sense has to sit here and figure discounts. Somebody has to stop the money rolling out the front door. Somebody has to see that a little of it gets over to the bank and stays there."

Pat sighed. "Oh, Oscar, don't take everything so personal. I didn't mean to insult you with that sign. I know how to sell and you know how to run the office, so each to his own. Although I must say I can't agree with all the penny pinching you do. You carry things too far."

"Penny pinchin'," Oscar cried. "It is better to have a penny to pinch, ach, then to have nothing to pinch. That's what would happen if you ran the business by yourself."

Now it was Pat's turn to become angry. "You don't like my innocent little sign! Does it ever occur to you that I don't like some things about your desk?"

Oscar looked shocked that anything could be wrong with anything connected with him.

"Take that ridiculous bullfrog on your desk," Pat snapped contemptuously, "the one with the big mouth into which you throw all those used paper clips. And the gold fish bowl you used to use for paper clips and now use for rubber bands you pick up. And that insulting 8-ball paper weight. That sign on the wall 'You Here Again? There's Another Half Hour Shot to—' Why all that insults customers and salesmen. Makes us all feel like heels just to be in this business with a fellow like you."

"Let them think what they want!" snorted Oscar, his face now a deep purple. "They are not buyin' you or me, those customers. They are buyin' fertilizer and farm chemicals which we got. When they look at me and my signs, ach, those customers know they can't slip the wool over my eyes, like they can yours. McGillicuddy, why don't you buy me oudt, if you don't like me?"

"I wish I could," Pat said bitterly.

"I can buy you oudt and I will," gloated Oscar. "I gave you my figure a year ago."

"I won't sell at that price," Pat snorted. "It's highway robbery."

Both men turned as someone coughed. They turned to see Tillie Mason. She had on her hat and coat. Her plump face was stern. "I've warned you two that if you keep fighting, I'll quit. I've had enough of both of you. Now I am going to look for another job. Go ahead and fight all day, and see if I care. If both of you spent the same energy winning and holding customers that you spend fighting each other, what a wonderful business this would be."

And with that she walked out of the office, slamming the door.

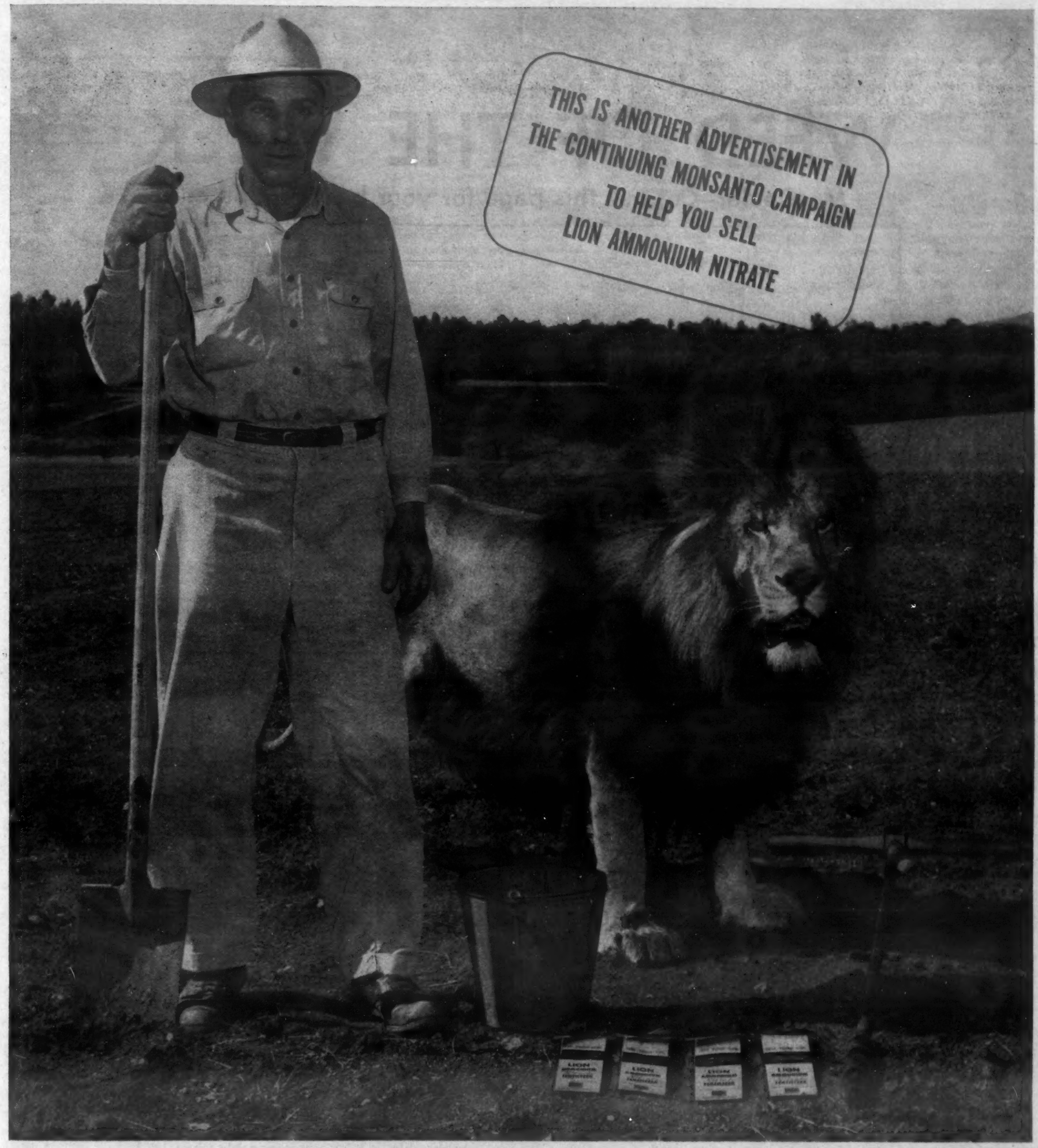
PRICE BOARD—The above price board cost about $200 but it is one of the best sales getters in the retail store of A. L. Wagner & Co., Haven, Wis. William Hertel, bookkeeper, makes a price change. Company officials say that many farmers will study the price board, make up their minds to buy an item, turn around and place their order.

Richard E. Noonan

Marketing Specialist

CHICAGO—Richard E. Noonan has been appointed marketing specialist by Velsicol Chemical Corp. Mr. Noonan will headquarter at Velsicol's Chicago offices, but will travel extensively in key market areas. He will devote his efforts to the merchandising of Chlordane insecticide and will be assisting formulators, distributors and dealers in their own promotion efforts.

Mr. Noonan graduated from the University of California at Santa Barbara with the degree of Bachelor of Arts. Roger W. Roth, Velsicol agricultural chemicals division sales manager, described Mr. Noonan's appointment as an indication of the increasing emphasis Velsicol is placing on Chlordane marketing. Mr. Roth reported further that a new type of comprehensive advertising and sales promotion program is planned for Chlordane in 1958. Besides insect control, Chlordane will be promoted for control of crabgrass.



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Nitrogen is the growth nutrient that builds big, healthy productive plants. And Lion Brand Ammonium Nitrate fertilizer, containing 33.5% nitrogen, supplies *two* important kinds of plant nitrogen . . . quick-acting and long-lasting . . . to give your plants a fast start *and* maintain steady growth.

Test your soil to learn how much nitrogen and other plant foods you need for your crops. Then figure how much and what kind of fertilizer is necessary to supply these needs. Your local agricultural advisors will help you.

Apply the full amount of proper mixed fertilizer and Lion brand Ammonium Nitrate your soil test indicates. Don't skimp—fertilizer is the least-expensive item you use for crop production.

See the results when your crops get all the nitrogen they need for peak yields. You'll be glad you used low-cost, Lion brand 33.5% nitrogen fertilizer. Look for the Lion on the bag at your favorite fertilizer dealer.

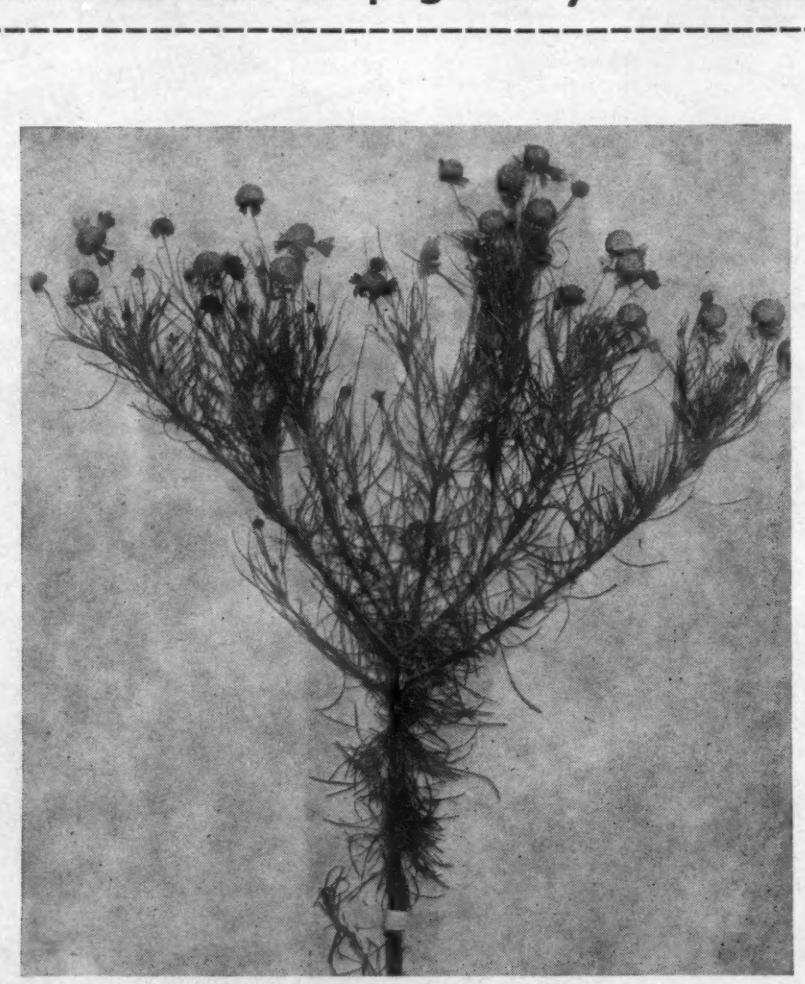
This year Lion brand is better than ever . . . more uniform in size . . . can't cake when stored properly. Look for it in the NEW GREEN BAG.

Monsanto

MONSANTO CHEMICAL COMPANY • Inorganic Chemicals Division • St. Louis 24, Missouri

WEED OF THE WEEK

Mr. Dealer—Cut out this page for your bulletin board



Bitterweed

(Helenium tenuifolium)

How to Identify

This weed may range from 6 to 30 inches in height, with smooth, erect stems, branching in the upper portion. Leaves are numerous, smooth and thread-like. They are arranged in alternate fashion, and appear to be crowded along the main stem and branches. The flower heads are about ¾ inch in diameter, and the ray flowers are yellow with a toothed tip, surrounding a dome-shaped mass of yeliow disc flowers.

Habits of Bitterweed

An annual plant, reproducing from seeds, it flowers from August to October, and seeds September to November. It is a North American native, and is distributed generally throughout the eastern portion of the U.S., particularly in the southeastern section of the country. It flourishes particularly in gardens, dooryards, waste places, and in lowland fields, especially in damp areas where rich soil is available.

Harm Done by Bitterweed

When eaten by livestock, the weed acts as a toxicant causing sneezing on the part of the animals. It is not usually serious unless large quantities are eaten by cows, horses and mules. When milk cows graze heavily on fields infested with this weed, however, they produce milk with a bitter taste, thus rendering it unmarketable. It is also objectionable when intermixed with prairie hay, because of its bitter properties.

Control of Bitterweed

Both chemical and cultural means of control are suggested by various authorities. A number of herbicides are effective, and cultural means of control are helpful if carried out over a period of several seasons.

Illustration of Bitterweed furnished through the courtesy of U.S. Department of Agriculture.

PEST-O-RAMA

(Continued from page 1)

found them. Others came to see what pest control is all about and left with a new understanding of the field.

Pest-O-Rama was sponsored by the Alabama Association for the Control of Economic Pests and the Alabama Polytechnic Institute Agricultural Experiment Station and extension service. In praising the cooperation of industry and public agencies, George R. Williamson of Montgomery, president of the association, said the program is a good example of what can be done when industry and public agencies team up.

The program had topics of interest for all who attended. Many phases of pest control were covered by recognized authorities and exhibits were prepared by pesticide manufacturers and dealers, equipment dealers, pest control operators, and several public agencies.

In a talk at the opening session, Dr. H. H. Golz, associate medical director of American Cyanamid Co., New York, stressed the importance of safety in pest control. Although most hysteria over the effects of insecticides on humans and animals is exaggerated, he said, precautions must be followed in using insecticides.

"Read and follow label instructions" is the first safety rule regardless of the pestcide being used, Dr. Golz declared. "If you are not going to follow directions, you should not use insecticides," he said. Keeping the chemicals off the skin was another point emphasized by the medical expert. Wearing protective clothing, changing clothes at least once a day, and immediate washing if insecticides get on the skin will prevent many accidents, he explained.

Dr. Golz also warned against eating, drinking, or smoking while working with pesticides. The user should mix the materials in the open or in well ventilated areas and work downwind to avoid breathing fumes, dust, or spray. Use a respirator if the label instructions say so, he added.

Symptoms from pesticide contamination described by Dr. Golz include loss of appetite, dizziness, nausea, headaches, excessive perspiration, abdominal cramps, and mental confusion. Usually, these symptoms can be expected in 48 hours, he explained.

Although the new pesticides can be dangerous, there will be few accidents if proper safety measures are followed, Dr. Golz concluded.

C. P. Zorsch, associate manager, agricultural chemicals department of Monsanto Chemical Co., St. Louis, discussed problems in developing agricultural chemicals.

One big question is how much can be spent in research by companies in developing insecticides and improving those already on the market, he said. He pointed out that it costs an average of $1 million to get a new insecticide developed and on the market. If the product remains useful long enough, the company can get its investment back and make a profit. However, if resistance develops, as in recent years, the manufacturer may lose on the product, he stated.

Legislation was named as a major problem in manufacturing and marketing farm chemicals. Mr. Zorsch emphasized that the national Agricultural Chemical Assn. supports good, effective legislation, such as the Miller Bill, that controls use of chemicals on crops. But, we oppose laws that would restrict development of rew materials and hamper farmers in using safe, effective insecticides, he declared.

Much of the restrictive legislation that is being introduced is the result of untrue publicity about dangers on food from insecticides, Mr. Zorsch pointed out. For example, he said, a bill was introduced to stop the U.S. Department of Agriculture's program for control of the gypsy moth because of publicity concerning the effect on food and wildlife.

Special label requirements for each state have been advocated by many groups, Mr. Zorsch stated. If put into effect, he said, this would seriously hamper the job of supplying pesticides where needed and result in increased cost to users.

Mr. Zorsch explained his belief that Land-Grant Colleges and all members of the pesticide industry have a responsibility to make available compounds at a price that make their use profitable to farmers. This calls for much research by both public agencies and industry to not only develop new products but to learn what treatments can be used safely and profitably.

In closing, he praised the Pest-O-Rama presentation as the "best approach to presenting this type of information that I have seen."

The Jan. 20 evening session featured a talk on "1958 Agricultural Program of the U.S. Government," by Hon. George Grant, Representative from Alabama's Second District, who is a member of the House Committee on Agriculture.

At the meeting of the Alabama association for the Control of Economic Pests held during Pest-O-Rama, these officers were elected for 1958: B. P. Livingston, Alabama Department of Agriculture and Industries, Montgomery, president; N. R. Downey, Hercules Powder Co., Birmingham, vice president; and Dr. W. G. Eden, entomologist of the API agricultural experiment station, will continue as secretary-treasurer.

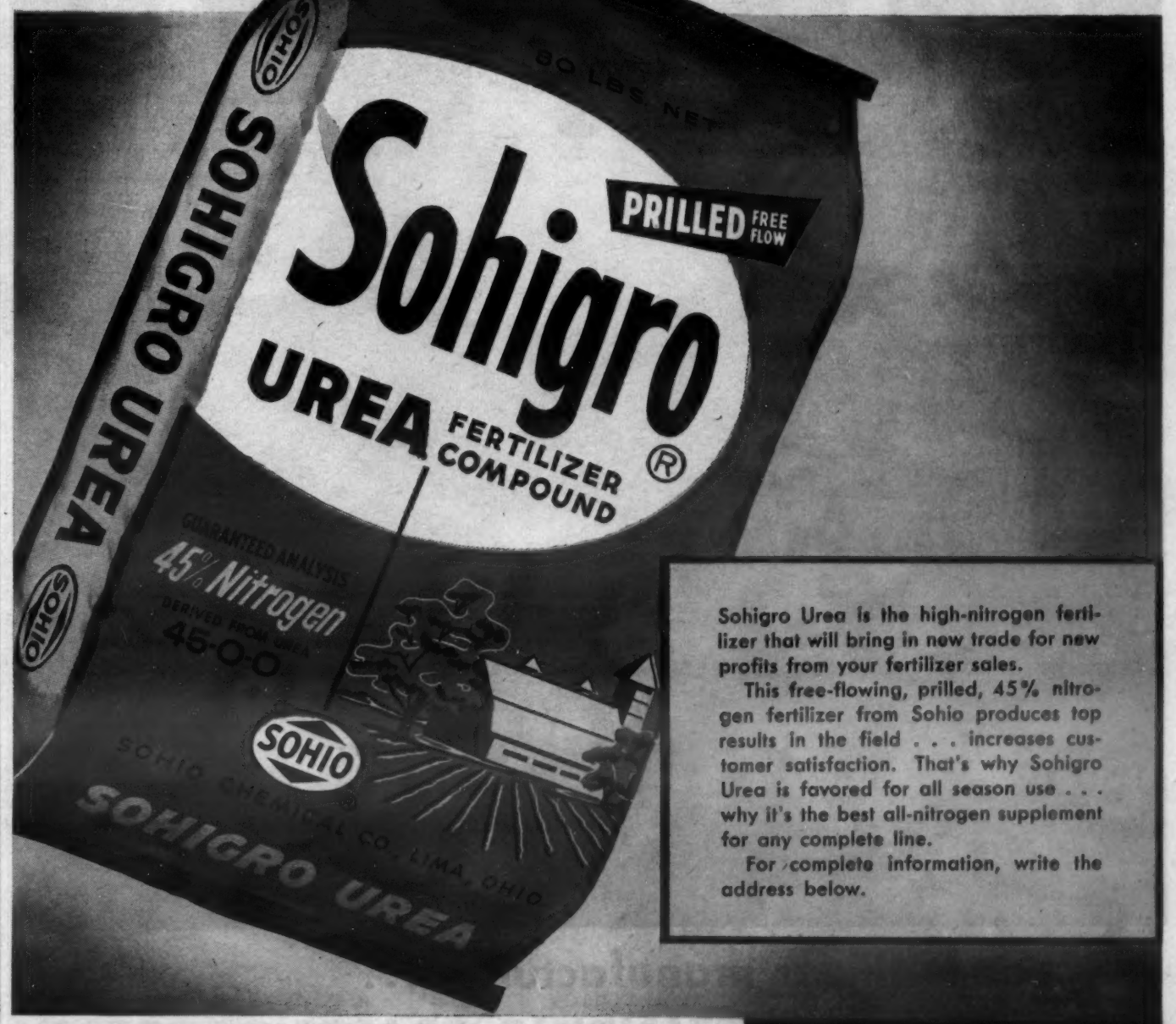
Elected to the board of directors are John R. Cook, Cook's Pest Control, Decatur, and R. J. Smith, American Cyanamid Co., Montgomery. George R. Williamson, Agricultural Chemical Service Co., Montgomery, becomes a board member after serving as president in 1957. Other board members are George P. Wilson, Wilson Air Service, Foley; O. H. Bowden, Farmers Marketing and Exchange Association, Montgomery; and J. E. Zeigler, Velsicol Chemical Corp., Millbrook.

Preventive pest control was the subject discussed by Dr. W. L. Popham, assistant administrator, USDA Agricultural Research Service, Washington, D.C. Keeping out new pests and preventing the spread of others to uninfested areas are a big problem, he explained. With today's fast rate of travel, new insects and other pests can be brought into this country through trade channels and arrive strong and ready to attack plants or animals.

(Continued on page 21)

NEW!

Traffic-Boosting Profit-Getter from SOHIO



Sohigro Urea is the high-nitrogen fertilizer that will bring in new trade for new profits from your fertilizer sales.

This free-flowing, prilled, 45% nitrogen fertilizer from Sohio produces top results in the field . . . increases customer satisfaction. That's why Sohigro Urea is favored for all season use . . . why it's the best all-nitrogen supplement for any complete line.

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There are extra selling benefits built right into every bag of Sohigro Urea . . . benefits that mean easier fertilizer sales, that produce top results in the field and increase customer satisfaction.

We're helping you sell your customers on the benefits of Sohigro. Every peak-season issue of leading state farm papers tells the story of Sohigro's 45% nitrogen grow-power and deep-feeding action.

We're telling how Sohigro Urea goes to work in the soil — dissolves fast, spreads with soil moisture deep into the root-zone. It puts soil rumen to work . . . starts seedlings fast . . . helps crops root for water . . . feeds crops evenly all season long.

And we're telling your customers how prilled, free-flowing Sohigro Urea is quick-acting, long-lasting . . . easy to use and easy on equipment.

Set the stage now for heavy sales this season and year round, with Sohigro Urea, the completely available nitrogen fertilizer.

SOHIO

SOHIO CHEMICAL COMPANY

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Industry Patents and Trademarks

2,820,703

Method for Preparing Compost. Patent issued Jan. 21, 1958, to Wilfred Carlton Dresser, East Orange, and Robert Dale Jacobson, Hillsdale, N.J., assignors to American Cyanamid Co., New York. A method of composting organic waste material which comprises the steps of mixing a quantity of partially composted organic material with a quantity of substantially undecomposed organic material and allowing the mixture to digest until the chemical oxygen demand of the mixture has decreased substantially, dividing said partially decomposed mixture, mixing a part of said decomposed material with substantially undecomposed organic waste material and allowing said mixture to digest, mixing another part of said partially decomposed material with organic waste material which has a lower chemical oxygen demand and allowing said mixture to digest until it has a substantially lower chemical oxygen demand, dividing said decomposed material and continuing the process of mixing part of the digested material with material of higher chemical oxygen demand organic material and part with material of lower chemical oxygen demand and digesting until the latter is composted.

2,819,947

Process for the Production of Sulfuric Acid by the Contact Process. Patent issued Jan. 14, 1958, to Erich Stahl, Frankfurt am Main, Germany, assignor to Metallgesellschaft Aktiengesellschaft, Frankfurt am Main, Germany. A process for the production of contact sulfuric acid in which sulfuric acid is recycled in separate streams to a drying tower for SO_2 containing gases and to an absorption tower for the absorption of SO_3 from a common acid vessel containing sulfuric acid of an average concentration of 98.5% with the aid of a common pump and additional water is required beyond that contained in the SO_3 containing gases for binding the SO_3 in the absorption tower, the step which comprises adding the additional water required for binding the SO_3 only to the separate acid stream recycled to the drying tower after it has passed the pump and before it is introduced into the drying tower.

2,819,948

Method of Fortifying Sulfuric Acid. Patent issued Jan. 14, 1958, to Samuel W. Wilson, Baton Rouge, La., assignor to Esso Research and Engineering Co. In fortifying a reconcentrated oil-washed spent black sulfuric acid by absorption therein of sulfur trioxide, the spent black acid having been washed with oil to remove oil-soluble carbonaceous material including oil-soluble sulfonated hydrocarbons prior to the reconcentrating, the improvement which comprises admixing with said reconcentrated black sulfuric acid to be fortified a small amount of oil-soluble sulfonated hydrocarbon effective for increasing the rate of absorption of sulfur trioxide by said reconcentrated acid, then absorbing gaseous sulfur trioxide in the resulting mixture of the reconcentrated black acid containing the admixed oil-soluble sulfonated hydrocarbon.

2,819,950

Conversion of Hydrogen Sulfide to Sulfur with Quinones. Patent issued Jan. 14, 1958, to Richard A. Patton, Pittsburgh, Pa., assignor to Texas Gulf Sulphur Co., New York. A process of decomposing hydrogen sulfide comprising circulating a fluid acid medium in a cyclic path, conveying a quinone having an oxidation potential of at least 0.2 volt in said medium to a first reaction zone in said path, introducing hydrogen sulfide into said zone and reacting it with said quinone, thereby converting said hydrogen sulfide substantially quantitatively into free sulfur and reducing at least part of said quinone substantially quantitatively to the corresponding hydroquinone, and removing sulfur from the reaction products, conveying said hydroquinone in said medium together with unreacted quinone to a second reaction zone in said path and oxidizing the hydroquinone back to the quinone in said second reaction zone.

2,819,955

Treatment of Impure Calcium Nitrate. Patent issued Jan. 14, 1958, to Willem Slot, Geleen, Netherlands, assignor to Stamicarbon N.V., Herleen, Netherlands. A continuous process for converting impure calcium nitrate-tetrahydrate crystals having an acidic reaction and containing acid phosphorus-containing ions into solid calcium nitrate fertilizer, consisting essentially of the following steps: forming an acidic calcium nitrate-containing liquor from said calcium nitrate-tetrahydrate crystals; reducing the acidity of said liquor in a single stage by introducing a stream of said liquor and a stream of ammonia simultaneously and continuously into a reaction zone provided with an overflow and maintained at a temperature above about 60° C.; adjusting the relative amounts of acidic liquor and ammonia supplied to the reaction zone to maintain the pH value of the liquor between 4 and 5, whereby any precipitate formed in the reaction zone is relatively small in amount and readily filterable; treating the overflow reaction products to remove the precipitate therefrom, and concentrating the remaining solution into a solid calcium nitrate-containing fertilizer product.

2-819,995

Insect Repellent Sticks. Patent issued Jan. 14, 1958, to Helen E. Wassell, Pittsburgh, Pa., assignor to Union Carbide Corp., New York. An insect repellent stick consisting essentially of from about 65 to 75 parts of an insect repellent, from about 18 to 23.4 parts of fatty acid, and from about 7 to 11.6 parts of ozokerite wax, the repellent comprising about 30 percent 2-ethylhexanediol-1,3 and about 70 percent of a member selected from the group consisting of 2-ethylhexanediol-1,3, ortho-dimethyl phthalate, 2 - cyclohexylcyclohexanol, 2 - phenylcyclohexanol and mixtures thereof, the fatty acid being a mixture of stearic acid and palmitic acid containing from about 26 parts to 70 parts of stearic acid, all parts by weight, said stick being substantially free of water and alcohol.

2,819,996

Stabilized Pesticidal Emulsifier Composition. Patent issued Jan. 14, 1958, to Gerard C. Riley, Philadelphia, Pa., assignor to Rohm & Haas Co., Philadelphia. An insecticidal composition comprising 10% to 90% by

For fertilizer manufacturers...

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Three grades of muriate of potash designed to meet the needs of fertilizer manufacturers! USP's Higran, the new specially-sized white granular, and Higrade muriate (both containing 62/63% K_2O)—the purest agricultural muriates now available. And Granular muriate of potash, too, containing 60% K_2O. All three are non-caking and free flowing throughout.

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weight of an oil solvent essentially consisting of hydrocarbons boiling within the range of 176° to 760° F., 3% to 10% by weight of emulsifying material comprising at least one alkylene oxide condensate type of emulsifier containing at least one group selected from the group consisting of oxyethylene and oxypropylene groups, an unsaturated bicyclic terpene selected from the group consisting of alpha-pinene, beta-pinene, alpha-thujene, and sabinene as a stabilizer in an amount of 10% to 50% by weight of the total alkylene oxide condensate component of the emulsifying material, and 4% to 60% by weight of a member of the group consisting of Chlordane and chlorinated bicyclic terpenes as an active agent.

2,816,083

Method of Conditioning Soils and Conditioning Agents therefor. Patent issued Dec. 10, 1957, to Newton H. Shearer, Jr., Kingsport, Tenn., assignor to Eastman Kodak Co., Rochester, N.Y. The method of improving the tilth and hydraulic stability of soil which comprises incorporating into a soil from 0.001% to 2% by weight based on the soil of an alkaline salt of a copolymer of about 90% by weight of N-isopropylacrylamide and about 10% by weight of a copolymerizable acid selected from the group consisting of acrylic acid and maleic acid.

Industry Trade Marks

The following trade marks were published in the Official Gazette of the U.S. Patent Office in compliance with section 12 (a) of the Trademark Act of 1946. Notice of opposition under section 13 may be filed within 30 days of publication in the Gazette. (See Rules 20.1 to 20.5.) As provided by Section 31 of the act, a fee of $25 must accompany each notice of opposition.

Trebo-Phos, in capital letters, for triple superphosphate for use as a fertilizer. Filed Nov. 5, 1957, by American Cyanamid Co., New York. First use Sept. 12, 1956.

F & B in hand-drawn reverse letters within a scroll, for soluble fertilizer, pure steamed bone meal, pelletized fertilizer, sulphate of ammonia, superphosphate, rose food, broadleaf high organic, nitrate of soda, and muriate of potash for use as fertilizers. Filed July 5, 1957, by Faesy & Besthoff, Inc., New York. First use, 1950.

Ambur-Kill, in capital letters, for rodent killer. Filed Jan. 9, 1957, by The Amburgo Co., Inc., Philadelphia, Pa. First use September, 1954.

Five Star, in capital letters, for herbicides in the form of weed and brush killers adapted for application in various ways: Rodent killers; fumigants; insect killers, and certain industrial uses. Filed Jan. 25, 1957, by Distributors Supply Co., Inc., St. Paul, Minn. First use March 28, 1932, on herbicide.

Folex, in capital letters, for defoliant. Filed June 20, 1957, by Virginia-Carolina Chemical Corp., Richmond, Va. First use May 31, 1957.

Green Ice, in capital letters, for fertilizers. Filed May 31, 1957, by Associated Seed Growers, Inc., New Haven, Conn. First use April 18, 1957.

Sunniland, in capital letters, for fertilizer and plant foods. Filed June 17, 1957, by Chase & Co., Sanford, Fla. First use Feb. 5, 1957.

Fish-Gro, in heavy capital letters, for liquid fertilizers. Filed July 30, 1957, by America Corporation, San Pedro, Cal. First use Jan. 15, 1951.

FEWER FERTILIZER FIRMS

SAN FRANCISCO — The number of firms manufacturing fertilizing materials in California, including their branches dropped from 79 to 72 between March 31 of 1956, and March 31, of 1957, according to the California State Department of Employment. But the number of employees at work making fertilizers rose slightly from a monthly average of 1,300 to 1,400 during each of the first three months of the respective years.

Minnesota Corn Contest Winners Get Good Fertilizer Mileage

ST. PAUL—Top award in the 1957 Minnesota X-Tra Corn Yield Contest was won by Donald Hassing, Easton, who produced the highest yield of 165.9 bu. an acre, it was announced recently.

Donald Eickhoff and son, Emil, Fountain, received first place in the "extra yield" division of the contest. They increased yields by 132.5 bu. an acre in a fertilized plot, compared to an unfertilized area.

A close second place in the top yield division was taken by William Zimmerman, Paynesville, who averaged 165.3 bu. per acre. Second place in the yield division went to Clinton Moline, Isanti who made an increase of 95.2 bu. per acre.

Charles Simkins, University extension soils specialist, said that the contest, now in its fifth year, has conclusively shown that farmers in major corn-growing areas of Minnesota can get yields of 100 bu. per acre or more. He said the results show that farmers who use proper field practices can well afford to invest up to $20 per acre in fertilizer for corn, if their present yields are below 80 bu. per acre.

The farmers in the contest averaged a 19.5 bu.-per-acre increase on fertilized plots, over unfertilized plots, in 1957.

The 1957 results also showed that it's important to plant enough corn kernels per acre, in addition to using fertilizer, Mr. Simkins said. Farmers who planted less than 12,000 plants per acre averaged only 64.6 bu. per acre and increased yields by only 6 bu. where they used fertilizer.

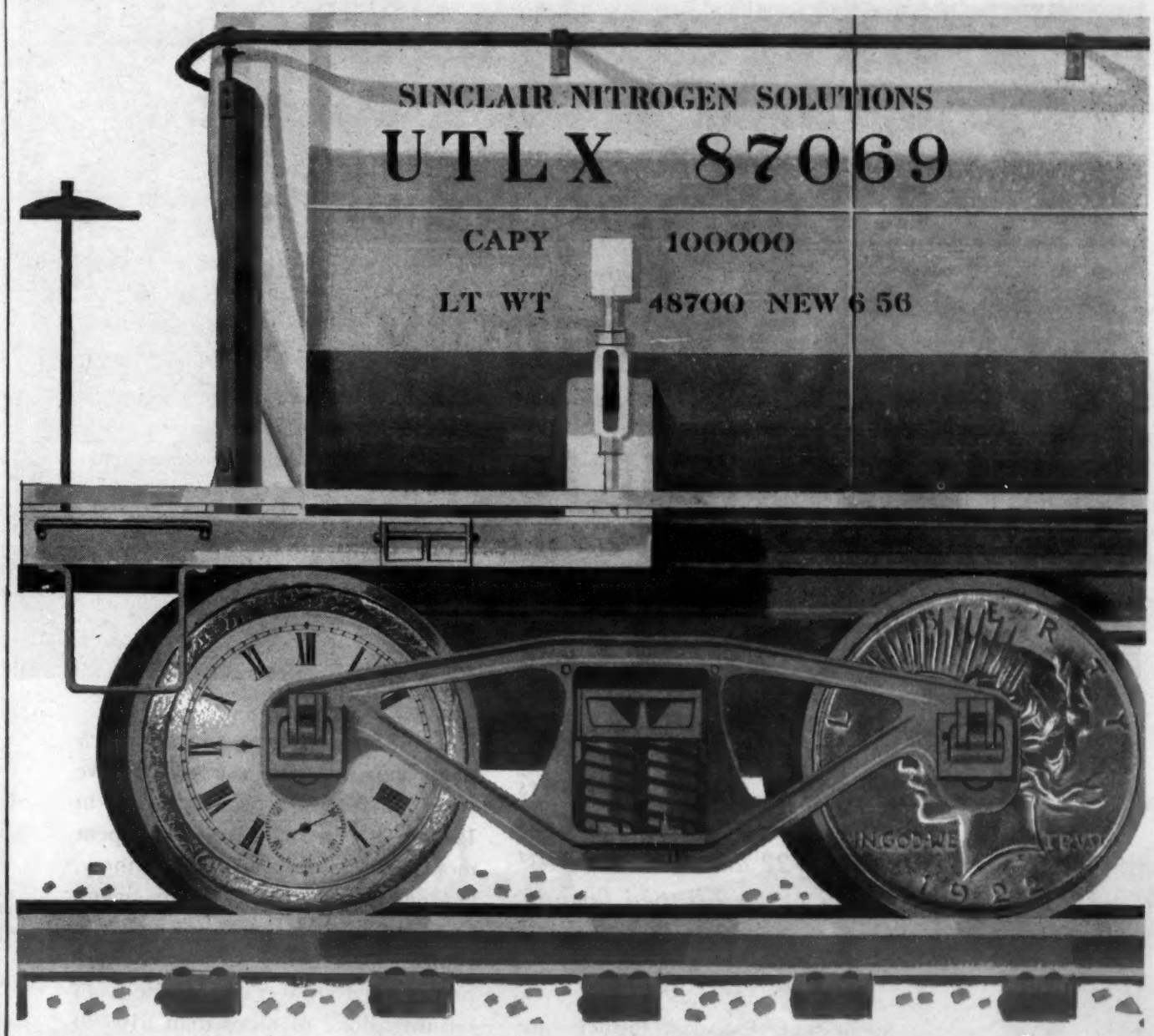
Farmers who had 16-18,000 plants per acre—the recommended population—averaged 94.3 bu. per acre on check plots and increased yields by another 26 bu. per acre on fertilized plots.

Forty-five farmers were named to a special honor roll for having increased yields by more than 40 bushels per acre in fertilized plots.

G. L. Jordan Promoted By National Potash Co.

CARLSBAD, N.M.—G. L. Jordan has been named assistant general manager of the National Potash Co., according to an announcement by Thomas G. Ferguson, vice president and general manager. As assistant manager, Mr. Jordan will continue as refinery superintendent and is also in charge of surface maintenance, car-loading and the laboratory.

He came to Carlsbad in 1954 at the start of construction of the National Potash plant, serving as chief engineer during the construction period and as refinery superintendent when the plant was put into production last February.



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WESTERN CONFERENCE

(Continued from page 1)

petition, much as the individual brick is important in making a strong building. The mortar which holds everything together is logic and understanding," Dr. Fogleman said.

Robert W. Every, Corvallis, Oregon State College extension entomologist, was elected chairman of the 17th annual Pacific Northwest Vegetable Insect Conference, which was also held in conjunction with the aforementioned meetings.

Other new officers of this group are Charles Doucette, Sumner, Wash., U.S. Department of Agriculture entomologist, co-chairman, and Howard Dorst, Logan, Utah, U.S. Department of Agriculture entomologist, secretary-treasurer.

Dr. E. C. Klostermeyer, entomologist at Washington State College's irrigation experiment station, told the entomologists that because most crops support a whole complex of insects, not just a single or few harmful species, most insecticides are not sufficiently selective to remove the harmful ones without affecting beneficial or harmless forms.

Very latest research findings for the control of tree fruit insect and disease pests were discussed and compared by state college, private industry and federal entomologists during the 32nd annual Western Cooperative Spray Project Conference.

Researchers told of experiences they had with new and old pesticides. Reports of their work in no way constitute recommendations since official recommendations can be made only by public service investigators from their respective areas.

E. W. Anthon of the Washington State tree fruit experiment station, Wenatchee, reported that spray experiments conducted on the peach twig borer under greenhouse conditions using DDT, Parathion or lead arsenate gave 100% control of these insects secured from several different orchards.

Mr. Anthon explained that because the general cull analysis last fall showed a substantial increase in fruit deformity, preliminary spray experiments were conducted against catfacing insects under caged conditions to determine the effectiveness of promising new insecticides. Endrin, dieldrin and Thiodan gave excellent control of these insects, while parathion and DDT also furnished good control, he said.

Wenatchee tree fruit experiment station workers used a total of 16 materials and 25 different concentrations during 1957 peach silver mite spray trials. Post-harvest mite counts showed that Kelthane, Nialate, Dithane, Tedion, Aramite and Systox gave the best control seven weeks after spray applications.

Dr. Fred P. Dean, federal entomologist at Yakima, Wash., indicated that a number of new insecticides furnished as good or better codling moth control than DDT during 1957 spray tests. He said that a Guthion sprayed plot was nearly free of worm injury and that this is the second year that this material has given the best control in experimental plots. Sevin, Diazinon and Trithion gave nearly as good control.

Dr. Dean emphasized that these results are based on very small percentages and that no significant difference can be shown between them and the standard DDT treatment.

Dr. S. C. Jones of the Oregon agricultural experiment station, Corvallis, reported that Trithion, Kelthane and Tedion showed the most effective control of orchard mites on apples in Oregon's Willamette valley. Sprays were applied on May 24 and Aug. 5 on the European red mite and the Carpini mite.

Dr. Jones also told of results obtained with systemic insecticides as a pre-blossom and pedal-fall spray for seasonal control of the black cherry aphid. He indicated that previous work demonstrated that Demeton applied on cherries in the prebloom stage of bud development controlled the black cherry aphid for the entire season, when a 1-800 dosage was used.

This previous work was confined to Mazzard seedling cherries. The work was repeated in 1957 using Demeton 1-400 and Thimet 1-400 in the prebloom stage on commercial sweet cherry trees instead of seedlings. The experimental set-up included check trees. No aphid appeared on any of the Demeton or Thimet sprayed trees through the season but the check trees all contained infested terminal tips.

Dr. H. F. Madsen, Berkeley, University of California entomologist, was elected chairman of the Western Cooperative Spray Project to succeed Dr. George F. Knowlton, Logan, Utah State University extension entomologist. Other officers are Ralph S. Downing, Summerland, B. C. entomologist, Canada Department of Agriculture, co-chairman, and A. A. Horn, Boise, University of Idaho extension horticulturist, secretary.

The onion maggot, one of the Pacific Northwest's most serious insect pests during the past two or three years, came in for considerable discussion during the 2½-day long 17th annual Pacific Northwest Vegetable Insect Conference.

Dr. D. G. Finlayson of Kamloops, B.C. reported that seed treatments with dieldrin, endrin and heptachlor gave good to excellent control of the onion maggot in soils from the following locations: Cloverdale, B.C. (muck); Kamloops, B.C. (sandy clay loam); Kelowna, B.C. (sandy clay loam); Sullivan Station, B.C. (peat); Labish, Ore. (muck); Puyallup, Wash. (clay loam), and Walla Walla, Wash. (sandy clay loam).

Angus J. Howitt of the Western Washington experiment station, Puyallup, explained that several experiments were conducted to test insecticides applied in the furrow with the onion seed at planting time. When granular formations were available, a Gandy dry chemical applicator was used with the Planet Jr. to place the seed and toxicant in the furrow simultaneously. When only dust or wettable powder formulations were available, a multiple V-belt was employed to perform this operation.

The onions were harvested at the green bunching stage and as mature onions. Diazinon, Niagara 1240, and Guthion gave outstanding control on both green bunching and onions grown to maturity. Trithion, although not quite as good as the three toxicants mentioned, showed promise.

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More Than 600 Attend Nebraska Fertilizer Exposition

LINCOLN, NEB.—More than 600 persons attended the Nebraska Fertilizer, Chemical and Machinery Exposition, held here Jan. 14-16 under the auspices of the Nebraska Fertilizer Institute, Inc. Twenty-four firms set up display booths.

The first day of the exposition was open to dealers only, and 283 registered. They heard talks on use of soil tests and basic economic factors as tools for fertilizer selling. W. E. Irwin, Phillips Chemical Co., talked on "Dealer Service to the Farmer," and Dr. Leon Chesnin, University of Nebraska agronomist, reported on trace element deficiencies in Nebraska soil.

Top growers in the "Better Corn More Profit" contest were honored by the institute at an evening banquet.

R. E. Bennett, president of the institute, awarded the first place plaque in the irrigated division to Max Loibl, Cozad, Neb. in Dawson County with a yield of 190 bu. The second place award went to Jim McBride, Axtell, Neb. in Kearney County with a yield of 188 bu. per acre. First place in the non-irrigated division was won by W. G. Heaton, Bellevue, Neb. in Douglas County with a top yield of 158 bu. Clyde Hineline of Blair and Curtis Dixon of Ft. Calhoun, both representing Washington County, tied for second place with a yield of 122 bu. per acre.

Dr. Donald Hanway, chairman of the agronomy department at the University of Nebraska, spoke on the topic, "What Our State University Offers to the People of Nebraska."

During the exposition the anhydrous ammonia dealers were invited to become a division of the Nebraska Fertilizer Institute. The institute now has three divisions. They are the dry materials known as the Chemix group, the liquid materials known as the Fer-Sol group and the Anhydrous group known as the Anhydrous Ammonia group. Members of the board of directors for this group are Bill Monroe, Kearney, Neb.; Frank Gallup, Alda, Neb.; Ted Heubner, North Platte, Neb.; Francis Kozicek, Gibbon, Neb.; Alfred Micek, Columbus, Neb.; Hollis Miller, York, Neb.; Al Plantz, Hastings, Neb., and Carl Felker, Jr., Loomis, Neb.

The last two days were open to dealers and farmers, and a variety of reports was given.

Firms and organizations which had display booths at the exposition were Agrifirst Chemical Corp., Allied Chemical & Dye Corp., Barnard & Leas Manufacturing Co., Inc., Campbell Manufacturing Co., Consumers Cooperative Assn., John Deere & Co., Dempster Mill Manufacturing Co., Eaton Metal Products Corp., Farm Fertilizers, Inc., International Minerals & Chemical Corp., Lincoln Service & Supply, Inc., Liquid Fertilizer Mixers, Monsanto Chemical Co., Lindsay Bros. Co., National Fertilizer Co., Nebraska Certified Seed Producers Assn., Nebraska Irrigation Districts Assn., Olin Mathieson Chemical Corp., Phillips Chemical Co., Simonsen Manufacturing Co., J. R. Simplot Co., Spencer Chemical Co., Stauffer Chemical Co. and Tennessee Corp.

Pesticide Dealers to Attend Conference

STATE COLLEGE, N.M.—Wholesale and retail pesticide dealers will discuss what's new in agricultural chemicals for control of crop and livestock insects at the New Mexico Pesticide Conference at State College, Feb. 6-7, according to J. Gordon Watts, head of the botany and entomology department at New Mexico A&M.

PEST-O-RAMA

(Continued from page 17)

In preventive pest control, Dr. Popham said, the first objective is to keep out destructive pests that we do not have. Next we must have rapid means of detecting new pests that cross our borders. He explained that a big problem has been detecting small infestations in time to prevent their spread. Quick detection is necessary to prevent spread throughout the country.

Dr. Popham made the point that pests can move only short distances alone. Man provides transportation for long distance spread, he declared. Quarantine has proved an effective way to keep many pests out of the country and to prevent spread of others to areas not infested, he concluded.

Dr. Ralph B. Draughon, president of Alabama Polytechnic Institute, presided at the evening program Jan. 20. Others presiding at the sessions were: Dr. E. V. Smith, dean and director, API School of Agriculture and agricultural experiment station; P. O. Davis, director, API extension service; Dr. W. G. Eden, experiment station entomologist; John R. Cook, president, Alabama Pest Control Assn.; Dr. U. L. Diener, experiment station assistant plant pathologist and outgoing AACEP vice president; and W. A. Ruffin, API extension entomologist.

Panel discussions with question and answer periods were held. These covered pests of shade trees, orchard pests, field crop pests, pests of ornamentals and flowers, lawn and turf pests, and vegetable garden pests. Panel members were: Dr. A. M. Pearson, zoology-entomology department, API Agricultural Experiment Station; Dr. E. A. Curl, botany and plant pathology department; C. C. Carlton, Chilton Area Horticulture Substation; G. H. Blake, Jr., zoology-entomology department; Dr. E. J. Cairns, botany and plant pathology department; Dr. D. E. Davis, botany and plant pathology department; Dr. W. G. Eden, zoology-entomology department; Dr. J. A. Lyle, botany and plant pathology department; V. S. Searcy, agronomy and soils department; Dr. A. L. Smith, USDA pathologist stationed at Auburn; Dr. D. L. Gill, USDA Agricultural Research Service; L. L. Hyche, zoology-entomology department; Henry P. Orr, horticulture department; Dr. R. L. Self, Ornamental Horticulture Field Station, Mobile; Dr. U. L. Diener, botany and plant pathology department; and Dr. Sam T. Jones, horticulture department.

Other speakers and their topics were: Dr. K. L. Hays, zoology-entomology department, the Imported

DEALER DIES

DOVER, OHIO—Harris L. Zimmerman, 75, a lime and fertilizer dealer, died here recently.

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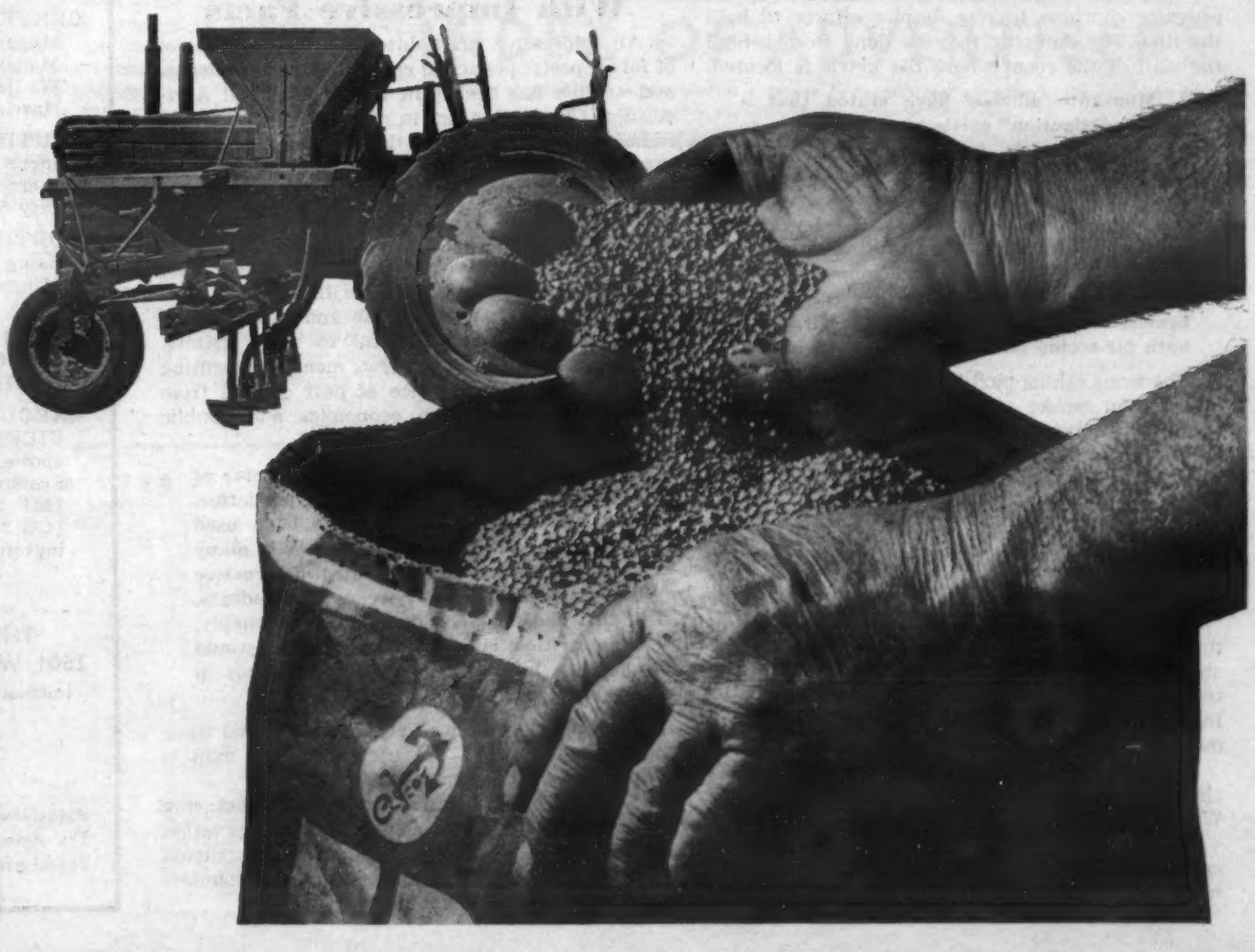

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A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Midwestern states.

Safety Information Talk Helps Entire Industry

Monsanto's new parathion-producing facilities at Anniston, Ala., incorporate about all the knowledge available on safety and prevention of explosions of the type which last year wrecked the company's old plant at Nitro, W.Va. That a firm would go all out to protect itself against the possibility of another loss is natural, but what is different in this case, is the fact that Monsanto has shared its safety information with others in the trade who face similar problems.

Without revealing the exact process for manufacturing insecticides, Monsanto has given out many of the details about equipment which assure safety for the men operating the plant, and also for the plant itself. Knowing that the explosion at Nitro was caused by instrument failure during the chlorination step in making methyl parathion, the company has installed double instrumentation at all critical points. Both pneumatic and electrical instruments are installed to check each other, and operators can quickly recognize any out-of-the-ordinary readings and determine where trouble might be developing.

Following the Nitro explosion, investigation revealed that while a faulty instrument was being repaired, reaction temperature rose more rapidly than expected, causing the reaction vessel to rupture. With no auxiliary gauge to inform the operators of this development, it got out of hand.

Monsanto engineers have considered just about every possible exigency in planning for complete control of manufacturing at Anniston. Both electronic and pneumatic instruments are in operation, so control may continue in the event of a power failure. A secondary power system in the form of a diesel takes over if compressed air pressure drops below a predetermined point.

Provisions have been made for the automatic cooling of reactor kettles by streams of water, and further safety is assured by the ability of the operator to dump the contents if temperature and pressure continue to rise despite efforts to hold the line. The dumping may be done from behind the wall of the room where the kettle is located.

Monsanto officials have stated that a "moral obligation" exists when its comes to exchanging safety information with other chemical manufacturing concerns. Even though some of these companies may be fiercely competitive on the sales level, it speaks well for the stature of leaders in the industry when they meet on common ground and discuss safety matters that can bring benefit to all. Such an unselfish attitude is both far-seeing and wise.

The firms taking part in the exchange of safety information can be assured that their efforts will reach out far beyond the locality of Anniston, Ala. Safety information should be for all. Knowledge in this field, when shared, can well come back to the giver in greater measure than he gave.

Alaska Weed Population Reported on Increase

Despite the idea held by a large segment of the public concerning Alaska's terrain, agriculture, and people, the area of this far northern Territory is not completely icebound and forbidding. In fact, each year finds greater progress being made in agriculture.

But along with the progress, of course, come also factors that tend to nullify the gains made. Weeds for instance.

Word comes from Alaska that new weed species are being introduced into hitherto untouched areas, and that each year weeds are spreading rapidly from old fields to new lands. Expanding population, new clearings adjacent to former clearings, and a general broadening of the agricultural base are contributing factors.

C. H. Dearborn, horticulturist from the Alaska Agricultural Experiment Station, Palmer, says that the weed problem is likely to continue and become much more serious than it is presently. One of the main sources of weeds, he says, is through various seeds imported from the U.S. to Alaska. "Practically all of the seeds used in Alaska, except potatoes, are imported," he told the Northeastern Weed Control Conference in New York recently. "This provides an avenue for weed seeds to get into the Territory. Other potent sources of weed seeds are imports of seeds for bird food, baled hay, baled straw, baled peat, potted plants and nursery stock."

Right now, some 35 species of weeds are listed as present in the Territory. Most troublesome of these are chickweed, lambsquarters, quack grass, mustard and climbing buckwheat. Canada thistle and perennial sow thistle are not now generally distributed, but appear to be persisting in areas where they are now holding forth.

Among the weeds increasing because of new cultural practices in Alaskan agriculture, he said, are climbing buckwheat, knotweed, Pennsylvania smartweed and wild chamonile.

Will chemical herbicides be effective against these unwanted plants under Alaskan climatic conditions? That is a question to be answered after there has been time to evaluate experiments there, although Mr. Dearborn reports that commercial control of quack grass has been effected in potato fields within the year of cropping.

Unless steps are taken to prevent the introduction of more weeds via seeds being shipped into the Territory, "Alaskans will be confronted with most of the noxious weeds of the States by the turn of the century unless the screening of imports becomes more effective," he observed.

NAC Counters Propaganda With Impressive Facts

An impressive press kit covering the control of forest pests; pesticidal chemicals; and pesticides and wildlife has been sent by the National Agricultural Chemical Assn. to many publications and radio stations throughout the country. Purpose of the mailing is of course to provide accurate information to counteract the wave of anti-pesticide sentiment that seems to be gathering momentum presently.

The information consists of quotations from industry and government authorities on pest control, public health, and the fish and wildlife service. It should be very helpful to news writers, editors, and radio and TV news men in presenting facts about the importance of pest control from the standpoints of both economics and public health.

Donald L. Miller, NAC Assn. director of information, points out in a covering letter, that "Pesticide chemicals have been used by farmers safely and with success in many areas for many years to control destructive insects, plant diseases, weeds and rodents. If this had not been done, our food supply, our nutrition, our health and comfort would not have improved as rapidly as it has in recent years.

"Few people who live in cities understand these chemicals, how they are used, or what man is trying to do with them."

The NAC's presentation, containing convincing statements from entomologists and conservation officials, as well as public health authoriites, should carry a considerable amount of weight in counteracting opposing arguments.

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CROPLIFE is a controlled circulation journal published weekly. Weekly distribution of each issue is made to the fertilizer manufacturers, pesticide formulators and basic chemical manufacturers. In addition, the dealer-distributor-farm adviser segment of the agricultural chemical industry is covered on a regional (crop-area) basis with a mailing schedule which covers consecutively, one each week, four geographic regions (Northeast, South, Midwest and West) of the U.S. with one of four regional dealer issues. To those not eligible for this controlled distribution Croplife subscription rate is $5 for one year ($8 a year outside the U.S.). Single copy price, 25¢.

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MEETING MEMOS

March 18-20—Western Weed Conference, Hotel Davenport, Spokane, Wash.

EDITOR'S NOTE: The listings above are appearing in the Meeting Memos for the first time this week.

Feb. 4-5—Kansas Insect & Weed Control Conference, Williams Auditorium, Kansas State College, Manhattan, Kansas.

Feb. 4-6—North Carolina Pest Control Operators' Short Course, College Union, Raleigh, N.C. Clyde F. Smith, Dept. of Entomology, N.C. State College, secretary.

Feb. 6-7—New Mexico Pesticide Conference, New Mexico A&M College, Las Cruces, Dr. J. Gordon Watts, Chairman.

Feb. 10-11—Southwestern Branch, Entomological Society of America, annual meeting, Shamrock Hilton Hotel, Houston, Texas.

Feb. 11-12—Third annual Montana Fertilizer Dealer School, Montana State College, Bozeman.

Feb. 12-13—Shell Chemical Corp. Nematology Workshop, Hotel Stardust, Yuma, Ariz.

Feb. 13-14—Agronomists-Industry Joint Meeting, Edgewater Beach Hotel, Chicago, sponsored by the Middle West Soil Improvement Committee, Z. H. Beers, 228 N. LaSalle St., Chicago 1, Ill., Executive Secretary.

Feb. 19-20—Midwestern Chapter, National Shade Tree Conference, 13th Annual Meeting, LaSalle Hotel, Chicago, Noel B. Wysong, 536 N. Harlem Ave., River Forest, Ill., Secretary.

Feb. 20-21—Shell Chemical Corp. Nematology Workshop, Holiday Inn Motel, Toledo, Ohio.

Feb. 20-22—Nitrogen Conference, University of Minnesota, St. Paul, M. W. Mawhinney, Smith-Douglass Co., Albert Lea, Minn., Chairman.

Feb. 25-26—Seventh Annual South Carolina Pesticide Chemicals School, Clemson House, Clemson College.

Feb. 26-27—Seventh Annual Ohio-Indiana Agricultural Aviation Conference, Ohio State University, Columbus, Ohio.

March 4-5—Western Cotton Production Conference, Hotel Cortez, El Paso, Texas, Conference Sponsored by the National Cotton Council and the Five State Cotton Growers Assn.

March 13-14—Oregon Feed & Seed Dealers Assn., Annual Convention, Multnomah Hotel, Portland, Ore.

March 18-19—South Dakota Weed & Pest Control Conference, City Auditorium, Miller, S.D.

April 13-15—Sixth Annual California Fertilizer Conference, California State Polytechnic College, San Luis Obispo, Sidney H. Bierly, 475 Huntington Drive, San Marino 9, Cal., General Manager.

April 17-19—California Hay, Grain & Feed Dealers Assn. Annual Convention, Ambassador Hotel, Los Angeles.

April 22 — Western Agricultural Chemicals Assn., Spring Meeting, Hotel Biltmore, Los Angeles; C. O. Barnard, 2466 Kenwood Ave., San Jose 28, Cal., executive secretary.

May 22-23—Soil Science Society of North Carolina, First Annual Meeting, Williams Hall, North Carolina State College, Raleigh, N.C.

June 9-11—Association of Southern Feed & Fertilizer Control Officials, Heart of Atlanta Motel, Atlanta, Ga., Bruce Poundstone, University of Kentucky, Lexington, Ky., Secretary-Treasurer.

June 15-18—National Plant Food Institute, Annual Meeting, Greenbrier Hotel, White Sulphur Springs, W. Va.

June 25-27—Pacific Branch, Entomological Society of America, San Diego, Cal.

July 8-10—Pacific Northwest Plant Food Assn., Ninth Annual Regional Fertilizer Conference, Pocatello, Idaho.

July 18-19—Southwest Fertilizer Conference and Grade Hearing, Buccaneer Hotel, Galveston, Texas.

Oct. 22-24—Pacific Northwest Plant Food Assn., Annual Meeting, Gearhart, Ore., Leon S. Jackson, P.O. Box 4623, Sellwood-Moreland Station, Portland, Ore., secretary.

Oct. 28-29—Northwest Garden Supply Trade Show, Masonic Temple, Portland, Ore.

Oct. 29-31—National Agricultural Chemicals Assn., 25th annual meeting, Bon Air Hotel, Augusta, Ga.

Dow Announces Chelate Changes

MIDLAND, MICH.—A new chelating compound as well as new names for the entire chelate line have been announced by the Dow Chemical Co. The new product is Versenol Z, designed for curing zinc deficiency in avocado orchards or deciduous trees of the northwest.

New names applied to chelate products will retain the Versenol and Versene trademarks but will be simplified. Under the new nomenclature, Versenol Iron Chelate will be known as Versenol F, Versenol Iron Chelate on Vermiculite will be Versenol FA, Versene Iron Chelate will be Versene F and Versene Iron Chelate on Vermiculite will be known as Versene FA. All of the names will appear on a redesigned line of packages planned to give uniform appearance to the line.

Wet Spring Would Bring Plant Disease Trouble to Iowa

AMES, IOWA—A repeat of last year's wet spring and summer in Iowa will mean that plant diseases will again plague farmers and gardeners, Mal Shurtleff, plant pathologist, Iowa State College, said recently.

Diseases of the stem, seed and root, leaf spots and blights will generally be heaviest in field crops, vegetables and flowers during a wet spring or summer, Mr. Shurtleff said. Attacks of these diseases are light to moderate during a normal spring or summer. Rust diseases, septoria and scab, in wheat, oats and barley will again be heavy if a wet spring or summer occurs.

Leaf blight of corn may be moderate in a cool, wet summer. These blight cases may be absent under normal conditions. Soybeans, potatoes and tomatoes may have heavy foliage disease losses during a rainy spring and summer. The loss may be light if the weather is normal.

Leaf spots and blights of vine crops will be moderate if the weather is damp. Infestations would be light under normal conditions. Scab and fire blight on apples and pears will be heavy if there is a wet spring or summer. They may be moderate to heavy if the weather is normal.

Grape disease losses from black rot and downy mildew could be heavy if conditions are wet. They'd be light to moderate if the season is normal.

Strawberries may be heavily infected by foliage diseases and root rot, raspberries by anthracnose and cane blight during a wet spring or summer. There wouldn't be light to moderate losses during normal conditions.

Trees and shrubs could suffer heavily from leaf spots and blights in a rainy season. Browning and abnormal needle drop of evergreens will be unlikely if conditions are wet, particularly if we get lots of moisture during the winter months.

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TWO 1,000-GAL. AMMONIA TANKS, BAFfled and mounted on truck. Piped to cork in compressor. Ideal for transporting. Some fittings and parts. George Campbell, Shelbina, Mo.

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FOR SALE—10 (TEN) ALUMINUM 500-gal. tanks on steel skids, with hose and valves complete, $200. Address Ad No. 3469, Croplife, Minneapolis 1, Minn.

Weed Control Circular Offered by Station

FARGO—Recommendations on chemical weed control for 1958 have been outlined in a new 6-page circular issued by the North Dakota Agricultural College Extension Service. The information has been prepared by L. A. Jensen, extension agronomist, and Dr. E. A. Helgeson, experiment station botanist, based on North Central Weed Control Conference and NDAC Experiment Station recommendations.

REMEMBER TO ORDER
CHASE BAGS
There's None Better!

CALENDAR FOR 1958

JANUARY

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FEBRUARY

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MARCH

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30	31					

APRIL

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MAY

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JUNE

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JULY

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27	28	29	30	31		

AUGUST

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31						

SEPTEMBER

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OCTOBER

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NOVEMBER

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30						

DECEMBER

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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

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2. High Density.

Because of this new process, each Hi-D granule is of extremely high density. These hard, non-porous granules lock out moisture, even under humid field conditions. Hi-D is *made dry* — and *stays dry.*

3. Special-Shape Granules.

Note the magnified granule. The unique shape and size are controlled so that distribution is even and accurate in all spreading operations. And Hi-D granules stay put on the ground.

4. Free Flow.

Hi-D flows freely even on hot, sticky days. Because of its super dryness, high density, and special shape, Hi-D doesn't gum-up, doesn't stick, clog, cake or bridge.

5. Two Key Kinds of Nitrogen.

You get *nitrate* nitrogen and *ammonia* nitrogen. One bag of Hi-D supplies as much nitrogen as 1½ bags of ammonium sulphate or 2 bags of sodium nitrate, yet costs less per unit of nitrogen.

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